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# Computer Weekly

Thursday, January 7, 1982 Number 790 30p 50974

**Computer Output Microfiche**  
LA

**"Information Technology Year 1982"**  
Possibly the most unlikely words ever to start a revolution.

Baker's IT revolution got underway at the weekend.

## IT Year campaign launch

by Boris Sedacca  
THE government's awareness programme for Information Technology Year has begun with a full-page advertising campaign in the national newspapers aimed at the general public.

The campaign kicked off with an advertisement telling the public they can be contacted automatically by their houses over the telephone to report a roof leak after hearing a weather forecast, and give the house permission to ring a roofing company.

The launch of Information Technology Year 1982 has followed on from the International Year of the Disabled with promises of financial aid from the Department of Industry estimated at £2 million to manufacturers of special aids for the disabled.

Funding has previously been provided by the Manpower Services Commission and the Department of Health and Social Security but now the IT82 organisers are looking to the DoI to play a more active role.

## Rates to stay as computer snags loom

by our Parliamentary Correspondent  
COMPLEXITIES of a new computer system seem certain to prevent an early replacement for local authority rates.

Environment Secretary Michael Heseltine has been considering a local sales tax or local income tax to replace the outdated rating structure, but has been forced to accept 1987-8 as the earliest date for their introduction. The abolition of rates was promised in the Conservative Party manifesto at the last General Election.

A Green Paper issued before Christmas outlined the difficulties of moving to a new system. Heseltine has asked for comments on the paper, which is a discussion document, by March 31.

In one type of sales tax considered by the Green Paper, a link with VAT, the hold-up was found to be the bottlenecks at the VAT computer centre in Southend.

The centre consists almost entirely of outdated ICL System 4s. Early last year the government ordered three 2966 mainframes to replace them, but changing over involves extensive re-programming. The VAT authorities have told the Department of Environment that the introduction of a sales tax cannot be contemplated until the new systems are fully operational.

The other version of local sales tax would require local authorities to set up their own tax administration, which would almost certainly need to be computer-based. This would require a great deal of detailed planning and it would be unlikely that these could be completed much earlier than five years from a decision to proceed.

A local sales tax would in any case imply restrictions on local authorities' freedom to make frequent changes of rate, because any rate change would cause problems for businesses.

If local sales tax accounting were to be integrated with VAT accounting, businesses which used the VAT retail schemes would have to carry out accounting adjustments or possibly an extensive stock-taking.

Large traders with computer-based accounts, such as the major retailing chains, would have to carry out re-programming, as would other concerns which produced all their accounts from a single central source.

The government concluded that among the leading options for replacement of domestic rates, a local sales tax would cause local authorities the greatest difficulties for stable financial planning.

The time needed was also a drawback in going for a form of local income tax, the Green Paper made clear.

The introduction of local income tax integrated with the national tax system would require extensive changes in the design of the computerised PAYE system.



HESELTINE... Election promise.

The time needed both to introduce local income tax and to computerise PAYE would inevitably be greater than for either alone, and there would be a high degree of risk involved in trying to do both at once.

It would therefore be a question of suspending computerisation of PAYE to introduce local income tax on a manual basis or postponing local income tax until computerisation was complete.

\*Cmd 8449 from HM Stationery Office.

## UK goes to market in Dubai

HUGE markets for UK computer exports are in prospect in the Middle East, with rapid growth already taking place.

Confirmation came before Christmas at the Gulf Computer Exhibition and Conference in the Dubai International Trade Centre, the first events of their kind in the region. They were backed by Computer Weekly and its new journal Middle East Computing.

UK exports of computer equipment to the Middle East for 1980 were £26 million, according to government trade statistics, and constituted the major part of the estimated £60 million non-weapon DP systems imported into the region from around the world.

This figure can be multiplied several times when management contracts, training, software supply and other services are included.

Dubai was the scene of the first venture overseas by the new British Information Technology Export Organisation, dubbed ExportIT. It has been set up with a grant from the Department of Industry and director Bill Wells visited the Gulf Computer Exhibition just three weeks after officially taking up his post.

On show from the UK at the Gulf Computer Exhibition were Selcon, Systime, Racal-Milgo, the NCC and Trestel among others. ICL chose the occasion to launch its Perq into the Middle East.

Companies claiming to have booked business at the exhibition included Systime with a £50,000 order, DHL which says it sold five word processors off the stand, and Alredale Air Conditioning which says it concluded orders worth £25,000.

## NEWS BRIEF

### £400,000 ICL profit

SHAREHOLDERS of ICL have authorised the company to increase its share capital so that management can go ahead with a rights issue which is expected to raise over £32 million. Initial indications suggest the issue will be taken up in full, putting the company on the first rung of its climb back to full financial health.

The 1980-81 accounts issued with the results of the shareholders' meeting show that in the second half of 1981 ICL made a trading profit of £400,000 before interest charges.

### DEC price cuts

DIGITAL Equipment has announced a 25% price cut on disc drives and an additional 10% reduction to "non-profit institutions." The reductions have been made in response to competition from outside original equipment manufacturers of disc drives and memories selling into the DEC market.

### Telemail trial

BRITISH Telecom is running a limited trial of GTE Telenet's Telemail electronic mailbox system. Later this year a decision will be made on whether to offer a service based on Telemail in addition to the similar service BT is marketing with Dalcrom from next month.

### 15% rise

PROGRAM product prices are likely to rise by a steep 15% for IBM users following an announcement from the US of a price review to take full effect in April. The rises hit hardest in large machine products like IMS/VS. Newer products and those which have been restructured recently are excepted, including all 4300 processors, 3081 processors, Displaywriter.



HUGHES... CBE for services to exports.

## Logica chief 'singled out' in Honours List

by David Crayner  
INFORMATION technology suppliers have got short shrift in the New Year Honours List, with only Philip Hughes, chairman of Logica Holdings, singled out for an award. Hughes has a CBE for services to exports.

Hughes agreed that it was "very odd" that he should be the only prominent figure in the industry to appear on the list. There is "no reason why I should be singled out," he said.

But Logica has consistently had a high proportion of its business outside the UK, currently nearly half of turnover.

The last time he made the calculation, Hughes reckoned that Logica accounted for 20 to 25% of all

computer service exports from the UK. Logica Holdings, which is part owned by the government through the National Enterprise Board, had turnover of just over £15 million in 1980.

Although its operating profit fell to £0.68 million, it was the company's success in its overseas operations which enabled it to increase turnover by 25% in the year.

Logica has expressed its belief that the US market, where the company had significant growth in the recent past, offers the greatest potential for future expansion.

In 1981 Logica concluded a merger of its US subsidiary and Freyberg Systems Associates, a professional services company.

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## Purchase new and used DEC drives from a company whose reputation is based on positive performance and unquestioned integrity.

If you're a DEC user, you can acquire DEC-maintained disk storage at large cost savings through a special program of System Industries called SITE (System Industries Trade & Exchange).

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equipment until it is successfully installed.

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For more details concerning specific inventory and pricing, please contact: Sarah Haywood, System Industries Trade & Exchange, at 0704 04623 5077 or see Market Place for details of equipment available now.







# First licence won for Unix update

by Claire Gooding  
A COMMERCIAL software house in the City of London, CDS Computer Services, has stolen a march on other British systems specialists by getting the first licence for System III, the follow-up to Western Electric's successful operating system Unix.

Unix has been waiting in the wings to become the standard portable operating environment of the 1980s. Western Electric's move to introduce its successor coincided with the US ruling that the telecommunications giant would now be allowed to sell software into the DP market.

System III has even more facilities than Unix and is likely to bring Western Electric a significant presence in the data processing market.

CDS will be selling source and binary licences to users in the UK, and is already getting orders and enquiries from a varied cross-section of users.

"People are beginning to find out what's going on," said CDS

chairman David Sanderson. "They are discovering that binary licences are a cheap way of getting System III facilities."

"In the Digital Equipment market, where operating system licences are quite high in any case, it may well push out the DEC OS."

CDS took a commercial decision to follow the Unix route after some market research, and plans to offer applications as well as the actual licences for System III. At the moment the lack of applications software is the only thing hampering the Unix movement, which is already strong among OEM and systems suppliers.

System III is totally compatible with Unix, and is likely to help rather than split the movement as it will appeal to large organisations.

"A lot of people have been cautious about spending money with Western Electric," said Sanderson. "We are rather proud of being the first British software house to take the step with System III."

## Ex-BCS chief sets up Third World charity

by Maggie McLening  
"MISUSE of computers" in developing countries has inspired Julian Bogod, ex-strategic marketing manager for ICL's international division, to set up a charity to promote computing in the Third World.

"What I saw horrified me and I decided to do something about it," he says.

The result is the newly-formed UK Council for Computing Development, for which he now works full-time as director. Bogod feels that a key factor for computing development overseas is to have government will and understanding behind computer projects, providing support in such areas as education.

"There is a tendency for the early stages to consist of private installations set up by multinational companies and staffed by expatriates. It's difficult to recruit local staff as they have no training," he comments.

As president of the British Computer Society in 1979-80, Bogod presented a paper in Mexico on computing development which also led him to contacts with the governments and private companies in Jamaica, Guyana, Nigeria, Singapore, Indonesia and Hong Kong.

Bogod sees the role of the UKCCD as advisory, and at the Second National Seminar on Computer Use, sponsored recently in



BOGOD  
fled me. "What I saw horri-

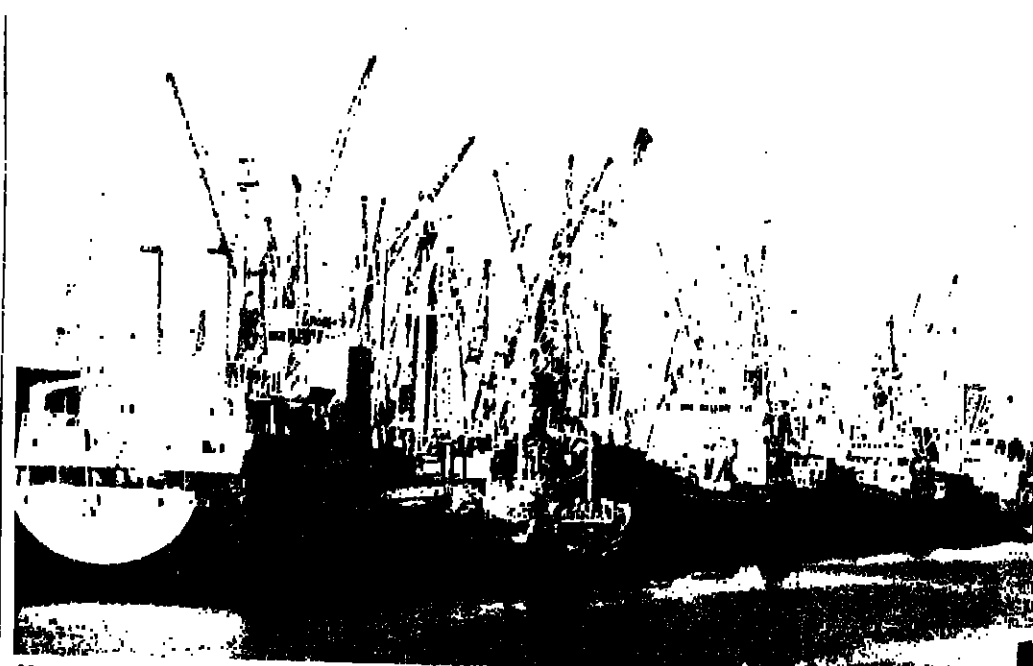
Sci Lanka by the International Labour Organisation advocated carefully planned computing growth to avoid costly mistakes.

"The developing countries need help to enable them to take advantage of world-wide computing advancements. They should not try to re-invent the wheel," he said.

There will, however, be no financial support from British overseas aid funds.

Membership fees for the UKCCD are on a sliding scale, according to category and size of company, varying from £5 for an individual to £20,000 for government members and companies with more than 5,000 employees. According to Bogod, there are currently 80 individual members and 32 corporate, including ICL, the BCS, the NCC, Ferranti and British Telecom.

"Companies joining as industry members may expect 'growth in business opportunities overseas' and 'access to information about overseas markets', while commercial members may expect 'long-term improvement in economic efficiency', according to the UKCCD prospectus. In return they will be expected to share their technical expertise and resources with the Third World."



Hamburg, one of the European ports linked by the new data processing pilot system.

## Pilot comms network links major European ports

by Philip Hunter  
AFTER 10 years of development the major European ports have been linked by a pilot communications network. Its developers hope it will lead to a de facto world standard.

The pilot system enables members of the EVHA, the European Ports' Data Processing Association to tune in to a computer centre in Copenhagen by telex, intelligent terminal or teleprinter. Information on operations, and ship movements are available now and there will be a study on exchange of details of dangerous cargoes.

Most large ports of the European Communities and Spain subsidise EVHA and nine of them, including the Clyde Port Authority in Glasgow, are involved in the first working part of the exercise, the pilot network of ship move-

ments. The European Communities put up about £350,000 for this first phase, with EVHA supplying the remainder.

The exchange of hazardous cargo information will begin next year with the Port of London and Medway taking part. "The idea is to make this transfer of information easier," explains Robin Russell, managing director of the wholly owned subsidiary of Clydeport Authority, Clydeport Data Management.

He adds that ports now dispose of information once it is no longer of any use. The final system, expected in 1985, should enable ports receiving dangerous cargoes to know in advance when to expect them and the exact nature of the hazard.

The network will be able to handle several standard protocols

and be telex compatible as well as taking telephone lines.

The Copenhagen centre runs on an IBM 3033 and an Amdahl 470, switching between the two.

Software for the project is being written by a consortium of European companies led by ERNO of Germany with Kamsax of Denmark and KLM of Holland. A British member of the consortium decided to bid for the tender on its own - and ended up losing out altogether.

A parallel but independent project is in progress at EASI, the European Association for Shipping Informatics, a sister organisation of EVHA.

There is also an almost identical project in the US and the EEC is keen to have its network adopted as the world standard, Russell adds.

## SALES BRIEF

### £200,000 system for arts centre

BARBICAN Arts and Conference Centre has ordered a £200,000 box office computer system from London-based Space-Time Systems.

The system is written in Fortran to run on a Digital Equipment PDP-11/44 under RSX-11 and will support 16 sales positions equipped with a VDU and ticket printer. It is to be installed in March.

### Bank order

BARCLAYS Bank has ordered 45 Diablo 1640 receive-only daisy-wheel printers from Zygol Dynamics of Bicester for £112,000. They will be used with Apple microcomputers in its regional branches for word processing and statistics gathering.

### Replacement

CITY-based insurance broker C. T. Bowring has ordered a £54,000 Rediffusion R1800/30 office computer to take over claims documentation and batch entry work from an older Rediffusion system.

### NCR upgrade

CZBCH car maker Skoda has upgraded the two NCR I-8200s at its UK subsidiary's offices to an I-9040, expanding the disc capacity from 40 Mbytes to 324 Mbytes, so as to add motor-cycle and agricultural equipment and spares inventories to its stock control system which previously only handled cars.

### Research aid

THE Social Science Research Council has installed a £40,000 256 Kbyte Kode XL40 with a 10 Mbyte disc and five VDUs to provide offline data entry facilities for records of research contracts, grant applications and post-graduate training funds, which are transmitted over a dialled telephone connection to a bureau for processing.

### Fire control

CLWYD-based remote data acquisition specialist Remdaq has won a second order for its year-old fire brigade command and control system, Commaqaq. The £180,000 order from the Isle of Wight County Council is for a system with a master station containing a two Mbyte bubble memory and 10 outstations, which is due to replace existing call-out equipment by the autumn.

### Custom built

THE UK's first custom-built genetic engineering fermentation plant, being built by US pharmaceutical company G. D. Searle at High Wycombe, is to be equipped with a £100,000 Kent K908 control system from process control specialist Brown Boveri, Kent.

### First contract

COPE Allman subsidiary Counting House Computer Systems has won the first contract for its ITS integrated technical system, which is to play a central part in Teesside Polytechnic Computer Science department's pilot CAD training scheme, one of the first to be supported by the EEC Social Fund.

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# Olivetti well on target after first year as PCM

by Boris Sedacca  
ITALY'S major office equipment manufacturer, Olivetti, closed its first full year in the IBM plug-compatible mainframes market well on target with a total of 55 systems installed in Europe.

The company has sold 37 IPL-manufactured machines targeted at the IBM 4300 series and 18 Hitachi machines, 13 of which are in the IBM 3033 power range and five competing with the 3081.

Olivetti had set itself a UK target of ten machines — comprising seven IPL machines and three Hitachi machines, one of which would be a 3081 equivalent — but now has 12 machines installed. According to Derek Lewis, managing director of Olivetti Computers (UK), four of these are built by Hitachi.

"Our brief was to establish a wide base of machines to complete Olivetti's product line, which would then put us in a position to rival IBM in Europe. Coupled with a background of the DEC wanting to end IBM's monopoly position in Europe, we found both the Italian government and the DEC very supportive."

"At the time of our entry into the PCM market in January 1980 the days of big profits were over,

though there are clearly still some margins to be made.

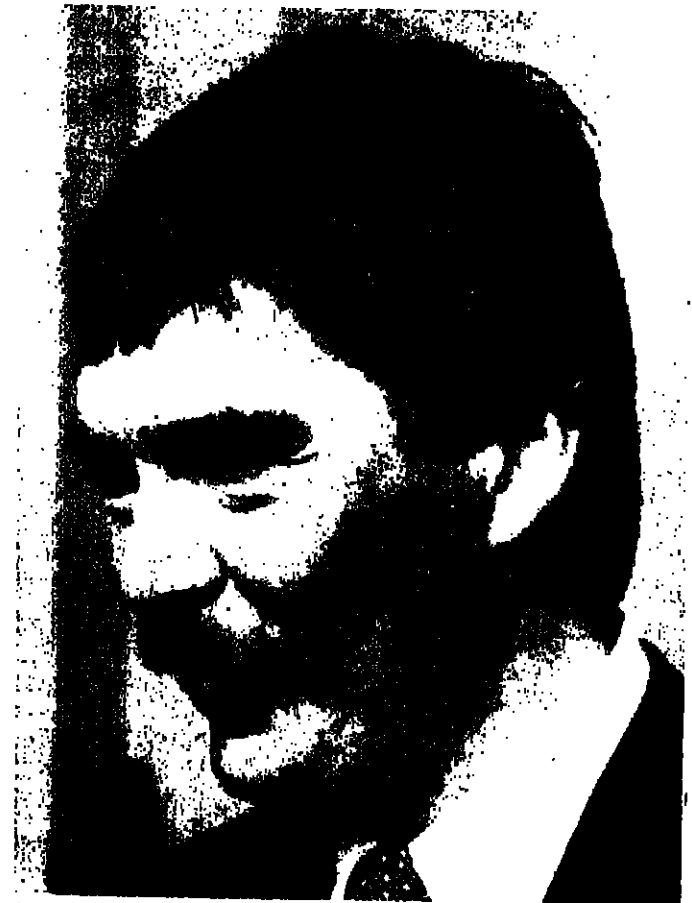
"If we were to continue only in the office automation market, our base would be gradually eroded by IBM's moves into the market. We were the last into the PCM market with a total product line and the return on smaller mainframes meant that we could not expect to make big profits," said Lewis.

Olivetti first expanded its operations into Spain, where no other PCs were operating and where it already had a sizeable operation.

Lewis continued: "The UK was chosen as the first testbed for a European business programme. We decided to pick our management and sales team from people with a minimum of ten years' experience straight from IBM."

"I believe we are now second only to Amdahl in the number of machines installed, and ahead of the other PCs."

Lewis rebutted suggestions that Hitachi had intended Olivetti to confine the sale of Hitachi machines to Italy. National Advanced Systems and the German chemicals group BASF also sell Hitachi machines in Europe, creating some embarrassing disruptions in the market for Hitachi.



LEWIS... "PCMs should not be fighting each other."

"There is no surprise element concerning Hitachi. Our contract with them contains a clause clearly stating that we could market their machines in Europe, the Middle East, South Africa, and Central and South America."

"A price fixing agreement or an agreement to split Europe between ourselves would be illegal, but although we investigated the possibility of a joint venture agreement with NAS this was not feasible because we operate differently."

Lewis added that he did not want a war with NAS because the real "enemy" was IBM.

## Bad start for data encryption devices

by Boris Sedacca  
THE market for data encryption devices has shown little growth and is expected to remain small, according to a report by the US market research firm International Resource Development.

Three years ago the promulgation of the National Bureau of Standards Data Encryption Standard (DES), coupled with the introduction of DES encryption equipment by major vendors such as IBM, had been expected to trigger a big movement towards the use by commercial and industrial users, says the report, entitled Data, Text and Voice Encryption.

But today, sales of IBM's 3845 and 3846 data encryption devices are reported by IRD as being "very disappointing". Eight semiconductor vendors have introduced DES chips or chip sets, actions which the report describes as "ridiculous, considering the very small number of devices which are required on the market, and the high cost of engineering new chips."

Davis Poulger, one of the authors of the report, said: "If trends from the last three years continue, we see no reason to believe that encryption will take off."

Replying to IRD's contention that sales of its encryption devices have been disappointing, IBM stated: "Sales of the 3845 and 3846 have been consistent with market demand for encryption devices in general."

## Théry tipped to head CII-Honeywell Bull

by Jack Gee  
GERARD THÉRY, former head of France's telecommunications authority, is strongly tipped to become chairman of CII-Honeywell Bull following nationalisation by the French parliament, industrial sources said in Paris.

Théry would succeed Jean-Pierre Brulé, whose job has been vacant since he was dismissed last summer by CII-HB's majority shareholder Saint Gobain Pont-a-Mousson, a glass-and-fibres conglomerate which has a 40 per cent stake in Olivetti.

Ironically, 48-year-old Théry was fired from his post as director-general of French Telecom soon after the Socialist government took over because he was regarded as a supporter of defeated ex-President

Valéry Giscard d'Estaing. Giscard appointed him to his telecom post in 1974. Théry earned an excellent reputation as the man who pushed through an ambitious programme to double the number of telephone lines in France.

The new government criticised Théry for upsetting public opinion by thrusting a pilot electronic telephone directory viewdata scheme on Brittany, an area chosen for a test run which has been resented by many local users. But now he is regarded as a top-rate manager whose talents must be used.

Théry was in America last month brushing up his English — and making contacts with the electronics and computer industry there.

## Thomson-CSF hires 2,000 young engineers

by Jack Gee  
FRANCE'S Thomson-CSF, which is scheduled for nationalisation, is hiring 2,000 young engineers and technicians early this year to cope with orders for computer and electronic equipment.

Chairman Jean-Pierre Bouysse said: "Orders might not follow right away. But since it takes time to train these youngsters we have to be ready for when a new boom occurs."

"Computer and electronic technology is developing so fast that we cannot afford to waste time. We shall also be competing on the labour market with other companies."

"I expect 1982 will be a year to pause for our company after the stable period in 1981 and the remaining rate of growth during the three previous years. But the effects of new orders will make themselves felt in 1983."

Many of the newly recruited engineers will be needed to fulfil a £180 million order for computerised control equipment which the Soviet Union has placed with Thomson-CSF for the 3,000-mile Siberia-Europe pipeline.

The French government has now given the go-ahead to Thomson-CSF after ordering it to postpone final agreement with the Russians in October.

## Insurance private network

by Donald Kennett  
ONE of the UK's largest private telephone networks has been launched. The operation, known as the Commercial Union Insurance Group.

By the end of 1982, the network is to have 26 British Telecom and IBM-based programs controlled by the Commercial Union Insurance Group.

most of its offices and 100 smaller offices in the UK.

The first exchange in the network, an IBM 3750 at head office in London, was installed in 1980. It was followed by six of the similar 1750 version during last year in cities including Manchester, Glasgow and Bristol and a seventh is to be installed in Glasgow in the near future.

## NEWS BRIEF

### Prestel worldwide sales deal

OVERSEAS marketing arrangements for Prestel have been streamlined following a deal with GEC to market the viewdata service software world-wide.

Under the agreement, future enhancements to the UK Prestel public service will automatically become available to overseas purchasers through GEC.

### Storage unit

THE Hobbie, a mini-cassette storage unit that acts like a floppy disc for Nascom systems, has been put on the market by Carmarthen-based Ikon Computer Products.

Over 51 Kbytes can be stored on each side of the tape in up to 69 files. Data is transferred at 600 bytes per second via one P10 port. The unboxed system costs £99.

### Pilot service

COUNCIL for Educational Technology has launched a pilot teleconference service on its Prestel database. Software to load the teleconference automatically is to be available commercially early this year from Research Machines for its RML380Z, which is widely used in schools, after trials with 25 schools and colleges using the pilot service.

### WP launch

S. WORD, a word processing system which incorporates full screen editing with arithmetic capability, has been launched by Wootton, Jeffries and Partners.

The system runs on Prime and DEC machines, and is available either as a complete turnkey system, or as a fully supported software package.

### Typelink release

A NEW release of the Typelink processing system has been announced by CTL, part of the Information Technology Ltd group. Licensed at £3,800 for the complete system, which runs on the CTL range of Series 8000 computers, Typelink offers the facility to interface automatically with the Reporter system, which enables selected information to be inserted into documents being processed.

## SOFTWARE BRIEF

### Pansophic and BOC team up

US supplier of system aids Pansophic has teamed up with one of the largest bureaux in the country, BOC Datasolve, of Sunbury-on-Thames, in an agreement which makes two of Pansophic's best known products, Panvalet and Easytrieve, available to Datasolve clients.

The Panvalet library storage system and the Easytrieve information retrieval and data management system are linked with TS03, Datasolve's version of the IBM program development tool SPP.

### For investors

AN investment workstation for investors has been launched by US software publisher Lifeboat Associates. Lifeboat describes the product as a combination of communications and management tools which creates an "electronic portfolio".

It is linked into the Dow Jones News and Information Retrieval Service so that the user's information stocks, bonds, options, stock splits and portfolio management can be updated automatically.

### 'Total package'

ONE of the most successful financial systems in the market has taken another step towards becoming what its vendors, RTZ Computer Systems, describe as a "total fixed asset management package". The Fascia system can now handle revisions on the values of fixed assets so that users can alter one factor in a class of assets and get an update on how the change affects current cost accounting figures.

### Naked Pascal

A "SUPERSET" of the new proposed standard for the Pascal language has been introduced by Computer Automation for use on its Naked Pascal. Computer Automation chose Pascal for the advantages it can offer in programming discipline. It runs under the OS4 and real time RTX operating systems.

### WP program

A WORD processing program which can cope with text and data convergence is being launched by Microtrend of Harrogate. The Lexicon package can screen documents up to 200 characters wide, and can also cope with automatic horizontal scrolling, numeric tabbing and decimal point alignment. It can also convert Lexicon files to standard CP/M text file format.

### DBMS for DEC

A NEW database management system for users of the popular Digital Equipment PDP-11 machine is being introduced into the UK by Pioneer Computer Systems, a software house based in Northampton. The DBMS, called User 11, is claimed to save 75% on existing programmer time in program maintenance and system development.

## SOFTWARE FILE

# IBM's short-cut for DP departments gives bureaux a new image

A BUREAU service doesn't spring to mind as the most modern, go-ahead and flexible tool available to the up-to-date DP person.

But IBM is offering its VSPC (Virtual Storage Personal Computing) service as a by-pass to busy DP departments which know exactly what they want but do not have the capacity for it. On at the other end of the scale, to first-time users who are fairly sure of what they think they might want, but will probably want it painted another colour once they have it up and running.

The whole idea of VSPC is to make available a variety of skills and resources which a user would not normally have on call. Using VSPC, a "prototype" system can be developed and subsequently

evolved into what is actually required instead of pouring effort into a one-off project which turns out to be not quite right.

The idea is catching on to the degree that other competitors in the IBM bureau field are beginning to offer similar services as part of the new image of bureau services.

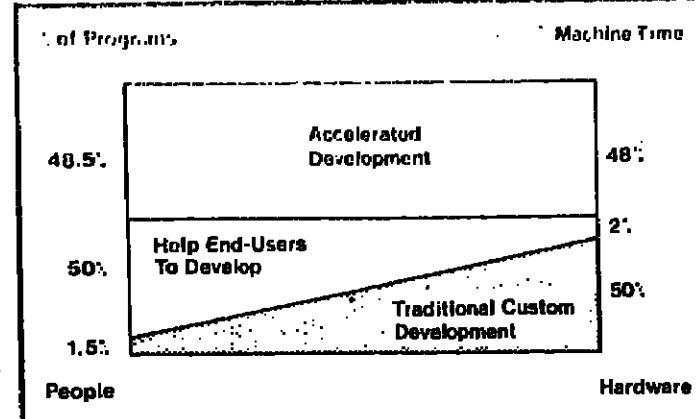
The service will run alongside existing in-house DP departments and aims to relieve load, by-pass the tailback of applications waiting to be developed, and get a system up and running without having to wait to amend designs.

Jeremy Rivers, the man behind the VSPC service run from IBM's Rayners Lane centre in North London, explained where VSPC fits into the DP scheme.

"We can go to DP departments and improve their productivity problems, be they due to lack of capacity, lack of facilities, staff, software, or whatever. Or we can go straight to the end-user and offer interim or even continuing solutions."

The reason behind the boom in the use of bureau services such as VSPC is the enormous increase in end-user demand. As more people expect to get more direct use of their company machine, DP resources become hopelessly overloaded.

IBM sees the simple solution as giving the end-user tools which will enable him to do the job himself without bothering — or even using the resources of — the in-house computing department.



IBM's view of the use of in-house DP resources.

The solution came partly from IBM's own in-house experience, and from research carried out in 1977. The interesting results are reproduced in the graph. They show that while the amount of everyday "bread and butter" processing has remained constant in terms of the machine time it occupies, an increasing amount of time has been given over to the execution of the "one-off" type of job demanded by end-users who need information and data.

The bureau service can also be used to set up complex projects high speed. One user, Mot Foods, needed a fast and sophisticated service in order to win a major contract with Express Dairies.

Deliveries to Express shops are now managed by a system of order processing which was written six weeks, and has to cope with products at variable weights, ones which have to be prepared within 24 hours, and involves some information and data.

## Unlikely start for software publisher



TERRY and CAROL POOLE: From stores to systems.

CHANCES are that if you need a microcomputer to run a business selling wood-burning stoves, then there are going to be thousands of people out there doing jobs from the mundane to the exotic, who could do with the same tool and similar (though never quite the same) software.

It is an unlikely beginning for a software publisher. Nevertheless, a five-person team calling itself Tabs, started from just such a source and is now selling its set of 14 applications packages for business accounting through a network of dealers which is to expand from its present 300 to over 1,000 outlets in the next year.

The Tabs team got together to provide a low-cost business tool which would be flexible enough to adapt to a user's needs as they grew and changed. Out of the business run by Carol Poole selling wood-burning stoves from home came the money, the business ac-

men, and the awareness of business users' needs.

The step from that to an Apple dealership taken on by Carol and Terry Poole paved the way to a full-blown software publishing business. They got together a team which could supply the various skills needed.

The problem facing the team was to produce and market something robust enough to stand up to first-time user thrashing, which was also sophisticated enough to tailor to requirements with the minimum of effort.

The ingredients they chose (put

together, incidentally, by a dyalexic mathematician) made a lot of sense: modular design, with each module integrated so that updating is automatic; user-defined parameters and the ability to run on a range of machines (the most popular including micros running CP/M).

The package is compressed and protected by the use of the DTL Basic compiler which also speeds up the running of the programs by putting Basic into compiled code. They are also designed with upgrading to multi-user systems in mind.

## Wang VS users to get Total option

MINI manufacturer Wang is taking another step towards giving its users a choice of software to run its VS machines. By an agreement with Cincom, supplier of the Total database, the entire Wang VS range will run Total.

The Wang Total is due to arrive in mid-1982 with customer education and installation coming jointly from Wang and Cincom.

Although Wang has won an enviable reputation for the efficiency of its hardware, it had lagged behind in the supply of systems and applications. Its move to bring outside software suppliers into its business has emerged over the last year or so, with Wang co-operating with suppliers like Cincom and The Office Manager, who can supply solutions far more quickly than Wang's own research department.

However, Wang's senior vice-

president, Frederick Wang, affirmed that despite opening doors to Cincom in the introduction of Total for Wang machines, Wang continued on Wang's own DBMS. This is designed to handle structured and unstructured electronic filing, voice, integration with graphics, and textual for word processing.

## Two tools for System 34

TWO programmer productivity tools for IBM System 34 have been released by Long-based Computer Resources. First will automatically generate and update documentation RFP-II programs, while the other is a system file maintenance program generator.

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### MicroFinesse US boost

THE financial modelling tool MicroFinesse is about to join the host of products out to win the rapidly growing US market for such applications on microcomputers. US publisher Osborne McGraw-Hill has chosen the product to spearhead its push into software distribution and has signed an agreement with the P-E Consulting Group, which is already supplying the product through Apple dealers in the UK.

Osborne McGraw-Hill is already involved with the Osborne microcomputer, which looks set to take a large slice of the micro market.

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# No salary secrets or job title mystique in this coms house

by Philip Hunter



WIEGOSZ... Silly to keep salaries secret.

MOST companies keep salary details confidential and nearly all give their staff a job title. Neither of these conventions is employed by small software house Syntek, which is also unusual in specialising in technical work, usually the domain of larger companies and the universities.

Housed in three fourth-floor rooms of a central London conversion, Syntek deals almost exclusively with communications work. There are ten technical staff, all from a scientific background, and one secretary.

Co-directors Peter Hornsby and John Wiegosz who founded the company in 1979 still count themselves as technical staff, spending half their time on professional work. "Although it is a year since I did any actual coding," admits Wiegosz.

What distinguishes the programming Syntek does from that of other small software houses, other than its technical emphasis?

"The main difference is that

time is a factor," replies Wiegosz. "Data processing people don't have to be conscious of time," he continues, adding that this is because they deal with disc files, which are static objects.

"We have to deal with flows for communications lines, measuring devices, and dynamic input, where timing is vital," says Wiegosz.

The other claim for distinction Syntek makes for his company is frankness, and a morning's discussion with him and two of his team did much to confirm this. I always think that a hard test of a small company's success with personnel relations is embodied in its attitude to salaries. A high score for Syntek here, all salaries are published.

"It's silly to keep them secret," believes Wiegosz. "Either a company believes salaries are fair and correct or it doesn't. If it does, why not publish them?" He stops short of saying what a company should do if it believes its salaries are unfair.

"Our attitude to pay means that

we have to be particularly careful when we conduct our annual salary reviews," says Wiegosz. He presumes that salaries must be not only fair, but be seen to be fair, surely an impossible feat in a large company which employs no systematic scaled pay structure.

About a quarter of Syntek's staff every six months, each bonus usually adds about ten to 15 per cent to annual income," says Wiegosz.

Syntek is not immune from the cold of the recession, however, and recently there was one period without a profit. There is no corresponding loss sharing scheme — instead, there was an abortive working week, staff being offered extra holiday at short notice.

Such attempts to halt the insidious advance of spare time are regarded as draconian by employees everywhere and even small friendly Syntek is no exception —

the move was rejected.

Wiegosz loves an argument and encourages his team to answer back when they disagree with him over matters technical or personal. Team member Andrew Watt confirms this, while making the observation that there has to be someone to make the final decision, or else programs never get written.

There are no formal job titles at Syntek, other than for the two directors. "If a client wants titles, I guess he can have them," says Wiegosz. "Titles are just a short way of describing experience," he adds, explaining that he will call someone a software engineer if he thinks it will help a client to understand what this person has done in computing.

In common with other small software houses, roles are often reversed, with someone who has just sat it out on the coding bench putting his mind to system design.

How does Syntek recruit its staff?

"We always hold two separate

independent interviews," replies Wiegosz. "Only if both yield the same verdict will the candidate be successful."

Syntek asks to see two things: copies of the candidate's work and examples of documentation. This stands to reason, Wiegosz argues, because these will after all be the two main products.

"We pose technical questions," Wiegosz continues, "because we like to see someone's mind at work. Sounds arrogant, but it's true. Also we are looking for talent, not experience. I've seen plenty of experience which can mean the person concerned has

been cocking things up longer than others."

Syntek's stress on honesty can cause problems with some clients, Wiegosz claims. "One or two clients have been taken aback when some of our younger staff have been forthright," he says.

Staff, he goes on, are instructed never to conceal the truth, a policy by no means universally popular. "Sometimes clients don't want to be told the truth," he claims.

"In the case of corporate clients, contracts often go to people who say what they would like to hear, with inevitable overbudgets and a big row."

It would be nice to have a few examples of such contracts, but that would be like asking Wiegosz to go on a hunger strike.

One of Syntek's team, Stephen Lowe-Watson, is a zoology graduate who became disillusioned with his subject while doing a postgraduate course at Sussex and then turned to computing.

He explains that the problem of calculating crisis times of programs is a matter of summing the length of instructions and timing accordingly. Could this not be computerised? I wonder.

Maybe, but probably not worth it, is the pragmatic reply. An answer which strengthens my growing awareness that the last thing programmers want to computerise is their own work.

Throughout our discussion, Wiegosz stressed what he considered unusual about his company. His attitude is summed up by his words: "We do here what others merely read about in Computer Weekly."



WATT... Programming is living with failure until system is finally debugged.

## Error-free program is only a dream

AN interesting analogy is drawn between computer programs and scientific theories in a pamphlet written by Dr Boris Allan of Manchester Polytechnic.

If a scientific theory has not been disproved, it has only been shown to be correct so far and may later be discredited. Newton's theory of gravitation held water logically at the time and was only shown to be incorrect by later testing.

The same is true of computer programs, he argues. To show that a program is logically correct does not ensure its running on a real computer. Non-logical errors may occur, for example corrupt data might be supplied.

The so-called "correctness proof" suffers from this flaw, Allan argues, by concentrating on logic errors and ignoring two main classes of program error: computation errors such as overflows, and incorrect input of programs or data.

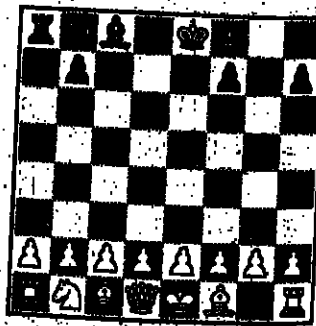
Computing is a real-world, not a dream, Allan reminds us. The core of Allan's argument is embodied in the Chinese proverb he quotes on the inside cover page of the pamphlet: To believe in one's dreams is to spend all one's

life asleep. The perfect language and the error-free program are dreams, he maintains. Certainly a thought to begin the new year with.

### PUZZLER

IN this week's problem you are asked to create a very short "game" of chess, with only four moves played by "each side, to bring about the diagrammed position.

BLACK



WHITE

White's King-side Knight is absent, and so is Black's. The only other change from the conventional start position of a game is the advance of Black's Queen's Pawn.

See page 39 for solution.

## OP SPOT



MILLER... "Dexterity tests have been the graveyard of many hopes."

## Prove you deserve your job—do an aptitude test!

HOW did you get your first job in data processing? Unless your uncle happened to be the DP manager, you probably had to go through the time-honoured procedure of replying to an advertisement, being offered an interview, buying a suit or new dress (depending on your proclivity), and impressing the interviewer sufficiently to be offered a job.

But those of you who have interviewed anyone will know that, nerve-racking though being interviewed is, actually doing the questioning is far more difficult and worrying. If you are applying for a job, the worst that can happen is your failure to be offered it — only you lose.

If, on the other hand, you give a job to a candidate who then singularly fails to perform adequately, you are failing the candidate, the company, and worst of all, your credibility within it.

For over ten years there has been available an aptitude test for prospective programmers and analysts. This test and its variants have been used by both ICL and IBM to appraise would-be systems staff.

Although a similar test for operators has been available in the US since 1973, it has only recently been anglicised to permit its use in Britain.

The organisation responsible for both the programmer and operator tests is the Independent Assessment and Research Centre, just off Marylebone Road in London, where I talked to the director, Dr Ken Miller.

Formed in 1968, the IARC is a non-profit making organisation, with educational charity status, and its main objective is enabling industry and commerce to make the best use of manpower.

In addition to tests for technical aptitude, the centre offers tests for mental alertness, temperament, interpersonal skills, personal values, and leadership and management potential.

But back to the Computer Operator Aptitude Battery. What better way to find out about the test than to get an operator to try it? What better operator than my good self?

And so it was that, ten years after my interview for the post of trainee operator, I sat down to be tested to see if I was suitable material.

I was given a booklet containing three tests. The first was sequence recognition and I was asked to visualise the order in which to place a scrambled set of time-related events.

For example, buying a round of drinks:

1. Try for drinks
2. Ask friends what they want to drink
3. Carry drinks to table
4. Notice glasses are empty
5. Check if you have enough money
6. Go to bar and ask for drinks
7. Because there isn't a "make feeble excuse for not buying

drinks" choice, I would say the correct answer was 4, 5, 2, 6, 1, 3. There are 24 of these to complete in the ten minutes allowed.

The second part checked my ability to perceive whether arrangements of numbers and letters conform to specified formats. Only 48 of these to do in five minutes.

The final part of my ordeal was the logical thinking test. Here I was presented with five flowcharts and by working through them, say what various boxes represented.

I hadn't done an examination or test since I took my driving test many years ago, and the nerves came back with a vengeance.

You will no doubt be pleased (and not a little surprised) to learn that I am better than 95% of trainee operators and better than 85% of experienced ones. I knew it all along.

I asked Dr Miller whether he thought dexterity tests were needed for operators. Although he

admitted that manual dexterity was relatively important for ops, he qualified this by saying: "Dexterity tests have been the graveyard of many hopes."

This test is long overdue and provides real assistance in recruiting the right staff.

Because the operator test is new a validation study is in the process of being carried out by IARC, and this is where you can help. Dr Miller needs DP departments to volunteer their operators for the test to obtain control information, and if you feel that your organisation could help, get in touch.

The complete test only takes 45 minutes and IARC would provide an examiner for your site if an experienced personnel officer was not available. All results would be available for examination.

You can contact Dr Miller at IARC, 57 Marylebone High Street, London W1M 3AE or on 01-486 6106.

## Take your partners for the 3-phase alternating shuffle

by Andrew Thomas

### DISASTER

HAVE you ever considered the marvelous possibilities for chaos involved in the use of three-phase power supplies for computers? Neither had I, until the day the new alternator was installed.

The engineers had planned the changeover with great precision, and assured us that we would only be off the air for 30 minutes. We shut down the machines, and sure enough, after half an hour the instruction came to power up.

Everything went perfectly. All the indicator lights shone with renewed vigour, the disc drives spun, and the printers whirled.

I went over to one of the printers to put a new box of one part in. Having fitted the sprocket holes over the tractor, I pressed the run out button to line up at head-of-form, but the paper didn't move. Well, it did actually — backwards — a small heap of paper had formed on my feet.

Sure enough, the tractors were

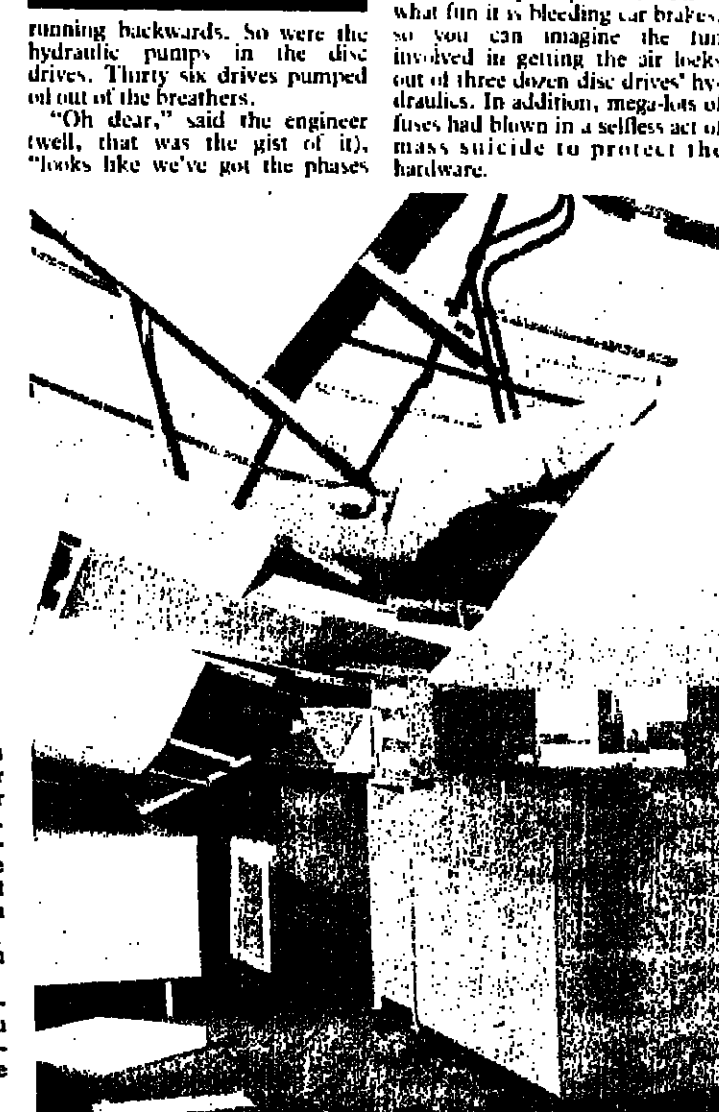
## Want to see your name in print?

DO you know any horror stories that deserve to reach a wider audience? If so, write to me or phone on 01-661 3500 ext 3422. You don't have to submit completed articles, just give me the details and I'll do the rest. What better way of seeing your name in print?

Anonymity will be available on request.

All contributions will be gratefully received. Remember, if you can laugh at someone else's mistakes you aren't likely to make them yourself.

Unless you're a very silly person indeed.



Someone must have gone through the roof over this one.

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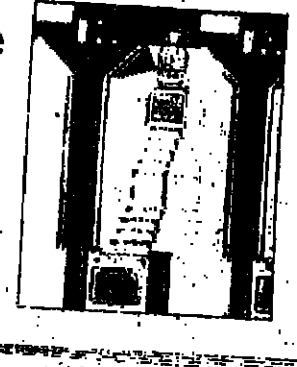
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PEOPLE

# IBM names head of new operation

IBM UK has merged its Data Processing, General Systems and Office Products divisions into one, and has named Fred Clarke to head the new operation in his new capacity as general manager, marketing and services, IBM UK.

The merger, according to chairman and chief executive Edwin Nixon, reflects changes in the marketplace during the last six years since the formation of the General Business Group, which included the general systems and office products divisions.

Clarke joined IBM in 1957 after three years in the RAF and a spell as head of the maths department of a grammar school in Bishop Auckland.

# IEETE award winner

A THIRD engineer (Contracting) with the Eastern Electricity Board has won the IEETE's Girl Technician of the Year Award, co-sponsored by the Caroline Heston memorial trust. She is Patricia Haynes, 24, who received a prize of £250 and an inscribed rose bowl. Runner-up was Linda Gardner, a higher scientific officer with the Ministry of Defence in Malvern.

Haynes joined the EEB eight

# New offices for GMSL

GMSL has opened new offices in Hove, Sussex, to house staff based in the Southern region. The company has developed in a few years from the systems department of a large mainframe computer bureau

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THESE pupils of Boston Spa Comprehensive have won £5,000 worth of Digico Prince microcomputer for their school, after being named Young Executives of the Year by Digico. Left to right: Paul Tinsley, Alan Robb, Graham Steel (standing), tutor Mr. Simms and Nigel Skelton, whose team beat 32 others to first place. The competition was organised with Leeds Education Authority to promote an educational interest in computers and to demonstrate the complex factors involved in running a business. Runner-up was Morely Bruncliffe High School, which received a £2,000 microcomputer donated by AIM.

# Engineering councillors

GEC research director Derek Roberts and IBM (UK) Laboratories managing director John Fairclough are among the 17 members of the Engineering Council appointed last week by the Department of Industry.

The Engineering Council will take over many of the responsibilities of the Council of Engineering Institutions. Members, who are appointed for two years part-time, include employers, academics and union leaders, but must have professional engineering backgrounds.

Mike Pincott has been appointed sales manager of Minerva Computer Systems. He previously spent nine years with ICL, and the past three years working for Data General.

Jan Jennings and David Prior have joined Prime as sales executives. Jennings, formerly with United Computing Services, joins the Feltham office and Prior, previously with Sperry Univac, will be based at the company's Bedford office.

Douglas Jones has joined Bexley Council as assistant data processing manager. He was previously with Batic Computing Services for 10 years.

Ken Hawkins has been appointed sales and marketing director for Freight Computer Services. He has been with the company for nine years, responsible for its minicomputer activities.

Alan Hatley has joined NCR as area manager for Scotland. He was formerly district manager specialising in the sales of NCR equipment to local government in Scotland. He has been with the company for 15 years.

John Barnes has been appointed sales executive at AM Jacquard Systems. He joins the company from NCR where he was an account manager.

Avic Clarke has joined Micro Scope as consultant to head support and customer liaison for the company's range of travel industry products. She was formerly a consultant with Datskil.

Colin Stone has been promoted from regional manager to UK field manager at Storage Technology. Phil Stepley has been promoted from senior UK national specialist to UK technical support manager at the company.

Richard Smith and Jim Hewitt have joined Rediffusion Computers' Crawley office. Smith, formerly a manager with ICL, is systems verification manager. Hewitt, who is product promotions manager, has been with the company's Birmingham office as territory manager.

Ken Baker has joined Compeda commercial manager, electronics division. He joins from Plessey Microsystems where he was marketing manager, memory products.

# Jarman adds to board

AIMING to strengthen further its position in the microcomputer market is Jarman Systems, the Tring-based micro software specialist which has just added management consultant Harold Norcross to its board of directors.

Norcross is part-time business counsellor and director of several companies, following a career as a management consultant, during which he founded his own management consultancy, Norcross and Partners. This was bought by US company AT Kearney in 1969, and Norcross served on the Kearney board until 1975.

Norcross has been involved with Jarman since its formation three years ago, developing accounting software.

John Priestley has been appointed branch manager at Prime's public services branch. He joined the company in 1977 as Midlands area sales executive, later becoming manager of the Birmingham office. Peter Thomas has become manager of corporate accounts with the company. He was previously energy branch manager at Sperry Univac.

Bob Norfolk-Thompson has joined Wordplex as an account manager. He was previously a salesman with Cowper Type-writers.

Peter Butlin, who joined Memorex in 1975 as small systems sales manager, has been promoted to UK sales manager, communications, at the company.

Ken Brereton has joined Lundy-Farrington as a senior sales executive from De La Rue Systems, where he spent 19 years, serving most recently as export sales manager.



INBUGON'S mini- and microcomputer trainer Dan Remenyi has travelled over 20,000 miles in ten days to present courses in Hong Kong, Singapore, London and New York. Remenyi has been spreading the word to managers and potential users of small business computers, and provided hands-on experience in operating and programming small business machines to 2,000 people worldwide last year.

# DIARY

**JANUARY 11**  
Visit to Charles Wells Ltd, Bedford. BCS Bedfordshire branch. Numbers limited, so apply to M. Adams on 045624 315515.  
Privacy - joint BCS and IDPM meeting. IDPM Norfolk branch/BCS East Anglian branch, Castle Hotel, Norwich. 7.30.  
**JANUARY 12**  
Autobanking. IDPM Scottish branch. Edinburgh University, Students Association, 60, The Pleasance. 7.30.  
A view from DP staff in internal audit. BCS Auditing by computer group. Connaught Rooms, Queen Street, London. 8.30.  
Ada Programming. BCS Bristol branch. St Vincent Rocks Hotel, Clifton. 7.15.  
**JANUARY 13**  
Micro to mainframe communications. BCS Edinburgh branch. Mountbatten-Building, Heriot Watt University, Grassmarket, Edinburgh. 5.30.  
Computing in your profession. BCS Humberdale branch. Grange Park Hotel, Wetherby. 7.30.  
The presidential visit - Do we need a computer strategy? BCS Kingston branch. Kingston Polytechnic, Penrhyn Road, Kingston-upon-Thames, Surrey. 7.30.  
Pascal, Qupro Data Systems. BCS Leicester branch. Lecture Theatre, James Watt Building, The Newark. Leicester. 7.00.  
**JANUARY 20**  
Meeting. IBM Computer Users' Association Management Group. Birmingham Metropolitan Hotel, National Exhibition Centre, Birmingham. Details from Mrs Speciale on 01-551 1643.  
Meeting. IBM CUA Operators Problem Determination Workshop. Grand Hotel, Bristol. Details from Mrs Speciale on 01-551 1643.

# CONFERENCES

FOUR speakers will present papers and lead discussion on the practicalities of project management at the Association of Project Managers' Project Management in Practice seminar, to be held at the Waldorf Hotel, London, on January 21. Speakers will emphasise how the gap between management

systems and their application can be bridged. The fee, which includes VAT, is £34 for association members, and £42 for non-members. Further information from the Association of Project Managers, 13 The Chase, Penn, High Wycombe, Buckinghamshire HP10 8BB. Tel: (0494) 481 2788.

# Middle East's DP market on brink of boom

THE market for computer systems and services in the Middle East is on the brink of rapid expansion as government and local businesses snap up the benefits of information technology.

And with companies like ICL, Seicon, Systime and Racal-Milgo already having a strong presence, the UK is set to take a substantial share against fierce US competition and awakening interest from Japan.

Though oil companies have naturally led the way in introducing computers to the Middle East, the real growth is now occurring in public administration and utilities and, increasingly, among privately-owned trading companies.

ICL has £4.5 million in sales to the Middle East and Jim O'Neill, Middle East sales manager, predicts up to £9 million a year by the end of 1982. The regional sales manager for a major US company added: "We see revenue doubling every year."

"Most customers are in phase I of their development, with standard implementations in batch," he said. "But we get more and more users coming to us to see what their kit can do. Phase II will come shortly when the users get their computers. Then, the market will go. And it's absolutely right for small systems."

The potential of the market was revealed at a unique event just before Christmas in Dubai in the United Arab Emirates, the very Westernised trading centre at the neck of the Arabian Gulf.

The event was the first Gulf Computer Exhibition and Conference, backed by Computer Weekly and its new publication Middle East Computing. The exhibition attracted almost 50 stand holders from Europe and the US, with representatives from Canada, Japan and India thrown in, as well as locally-based companies. The conference was chaired by Computer Weekly Editor Simon Timms.

Visitors totalled 3,184 over the five days of the show from December 15-19, while the conference pulled in over 160 delegates over two days. Both events were held in the modern Dubai International Trade Centre, which orga-

nised the exhibition, and there was universal praise for the quality of visitors from exhibitors.

Local attendance from Dubai and the other Emirates, notably Abu Dhabi, the largest, formed the largest percentage of visitors, though the all-important Saudi Arabian market next door was heavily represented.

Exhibitors included most of the big names in the region, from IBM, NCR, ICL and Data General to Wang (via the local Emirates Computer Company), Systime, Seicon and Prestel.

Britain's National Computing Centre has teamed up with locally-based Datamation Systems to sell its training packages and Filetab among other products, while other UK training companies like Keith London Associates and Automated Data Systems were also represented.

The main selling effort is from minicomputers up to large systems, reflecting the fact that many large organisations have standard applications which have still to be computerised.

Direct sales of computer equipment to the Middle East are not great. Figures from the British Overseas Trade Board for 1980 put Saudi Arabia's imports from the UK at just over £6 million, and from the US just under £7 million. The whole regional market is put at about £60 million for non-weapon DP systems.

But this figure can be multiplied several times for related services from facilities management, support, training, software maintenance and the like.

Sales of microcomputers are heating up. Systime's Gulf general manager, Frank Harrison commented: "Our sales are mostly mid-range. Say 10 terminals and above. Our 500 micro is becoming a good prospect but most of the Tandys, Apples and Pits are being sold for home use, with some to people like financial directors purely to run Visicalc."

"Very few are for commercial use," Harrison added. He is predicting sales of between £1.5 and 2 million for Systime in the Gulf during 1982.

# Oil companies ahead with some of the world's biggest sites

OIL companies naturally dominate the use of computers in the Middle East, and their influence was seen at both the Gulf Computer Exhibition and Gulf Computer Conference in Dubai.

Probably the biggest IBM and ICL installations outside their home countries are seen in the region. Saudi Arabia's giant Arabian American Oil Company (Aramco) which handles its oil exports is an IBM site, while the Abu Dhabi National Oil Company (Adnoc) in the United Arab Emirates has nine ICL processors.

Other IBM installations include the Bahrain Petroleum Company (Bapco) and Qatar's oil-producing organisation, while ICL has a large installation at the Kuwait Oil Company.

Applications developed at these sites are among the most sophisticated in the world. Former director of DP services for Adnoc, Ali Mosawi, told conference delegates that the company was on the road to developing well history techniques which will allow petroleum reservoir engineers to have a complete history of a well's characteristics and history to allow them to maximise oil production.

Techniques like these and reservoir mapping, as well as the control of a multitude of wells and pipelines, soak up processor power and demand huge add-on memory. Database management systems are widely employed.

The oil companies are also pressing ahead in non-oil systems. Carl Bistany, head of the Emirates Oil Company in Abu Dhabi which has the exclusive Wang agency for the United Arab Emirates, notes the advance in networking word processors.

Engineering and scientific applications are high on the oil companies' shopping list. Adnoc has just gone out to tender for a scientific computer centre, while ICL used the Gulf Computer Exhibition to launch its Perq into the Middle East.

The company's sales manager for the region, Jim O'Neill, reported strong interest in the demonstration package at the show ran virtually non-stop.



CORDER... "Training plan for the whole Gulf is an urgent requirement."

# Software the key to systems sales

EVEN more than markets elsewhere, sales of computer systems in the Middle East are software-driven.

A local executive from IBM, who admitted the company is not pushing sales much below the System 34, said: "I think I can say that no customer - or perhaps only university - has taken a 34 without proprietary software. I don't think the 'make' business is here. They'll not buy and develop for themselves."

Even in established sectors like banking, where IBM runs neck and neck with NCR for market leadership, the software houses make all the running, he added.

"We can sit back happily and let John Hoskyns sell a couple of 4341s. The customer comes back in a couple of years' time when he needs more capacity. It's wonderful business."

Third party vendors who are well established in the United Arab Emirates include Hoskyns and BIS in banking, and Datamation Systems, Alpha Data Processing Systems and Alghamur Information Management Services (AIMS), which supplies Package Programs Ltd software, for general packages.

Opinion among vendors about the extent to which Arabic should be built into software differs, mainly depending on the market being tackled.

The Gulf general manager for Systime, Frank Harrison says: "Most enquiries we get are commercial, and not for Arabised systems. Of course we supply English/Arabic terminals and English/Arabic printers, but we find we sell to English and Asians in trading companies."

Kevin Hughes, international director for Computer Resources, disagrees. "Systems must be developed in Arabic from the start," he says, "not merely rewritten from a different language."

Computer Resources is in the middle of a £3 million contract to supply a 4341-based system for the General Presidency of Youth Welfare in Saudi Arabia. It is doing it

# Training to keep out foreigners

TRAINING is an essential part of any systems supply to the Middle East, with Arab users the key target.

At least part of the reason is racial. The results of a recent census within the United Arab Emirates, so far unpublished, are thought to have revealed that Arabs make up as little as 15% of the population, while Europeans (mainly British) make up about a third. The balance is from India and Pakistan, and it is Asians who hold most of the middle and low-level jobs.

Making up the shortfall of Arabs for government ministries is an essential element of the drive to computerisation, as is the unspoken but important task of reducing the dependence of the general economy on immigrant, especially Asian, labour.

The UAE has an embryonic National Computing Centre set up with United Nations backing and modelled on the UK's NCC. There is also a Computer Training Centre in Kuwait.

ICL maintains a staff of 20 at the Abu Dhabi National Oil Company, mainly concerned with software development, but also involved with training, while IBM is on the point of opening a training centre in Dubai.

Inevitably the sharks of the training world have also latched on to the Middle East. Gavin Whitchell, training manager for Britain's Automated Data Systems, says that users are well advised to steer clear of companies using contract trainers. "No contractors," he says. "That's the way to lose your reputation."

Already established in the area is Keith London Associates, and managing director Colin Corder gives regular courses in the Dubai International Trade Centre.

In an address to the Gulf Computer Conference, Corder warned: "There is a shortage of skilled computer staff... and an almost total lack of knowledge among computer users as to both the potential and the problems of computers. In both these areas the position will worsen in the immediate future."

Citing the adverse effects of expensive expatriate staff with little loyalty to any organisation and frequent job moves, he said that a training plan for the whole Gulf, within a country or within any organisation is an urgent requirement.

# Software the key to systems sales



HUGHES... "Systems must be developed in Arabic."

by building a mirror-image system of an Arabic data centre in Woking and has hired Arabian programmers to work there.

Hughes cites a range of factors which demand Arabic is built in right from the start. They include the fact that up to five names are required to uniquely identify an Arab; that Arabic writings, including dates, runs from right to left; that tax, pension and health contribution deductions are not generally needed on payroll packages; that screen prompts need to be tactful and far less abrupt to avoid offending Arab users; and that the use of keyboards is not generally acceptable to Arabian managers.

In an address to the Gulf Computer Conference, he castigated the suppliers and builders of what he termed "monolithic, unnameable programs" developed with little thought for future requirements. He also criticised suppliers who simply branched round unwanted routines within standard programs and called the result an Arabic package.

The comments reflect the fact that Systime is mainly established among commercial users, where English is the norm, while Computer Resources has made its mark in the government sector where the requirement for Arabic, especially in Saudi Arabia, is essential.

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## Hand-held tester detects computer network faults

DELAYS in the installation of data communications links and faults in computer networks can be reduced with a new hand-held black box from Electrodata, claims David Bisset, the sole UK distributor.

The MTS-2 Interface and Modem Test Set will isolate the fault, and tell the data processing manager or systems engineer if the fault is in the computer terminal, the data modem, the cabling and connectors between the units or on the leased line that links the computer sites or offices.

Battery-operated and weighing 14lb, the MTS-2 is claimed to test almost any data modem (synchronous and asynchronous) plus data multiplexers, acoustic couplers and interface units.

In particular, it can be used on fast asynchronous modems that transmit and receive at speeds up to 9,600 bits per second and modems needing "start" and "stop" bits for word patterns, eg for Ascii character-codes. It also tests synchronous modems that operate up to 76.8 Kbits per second and can monitor standard RS232C/V24

data interface cables. The MTS-2 was designed by Electrodata for use with conventional and advanced modems (such as the Racal VA3400), high speed full duplex data links, statistical multiplexers (used in data links).

It is housed in a small sturdy plastic case, size 5 1/2 x 3 1/4 x 2 1/4 inch which opens up to reveal two halves. David Bisset (CW), 52 Luton Lane, Redbourn, St Albans, Herts AL3 7PY. Tel: (058285) 2637.

## PoS till for the multiple retailer

IN A move to capture an increasing share of the expanding retail wholesale and cash and carry marketplace, Riva Turnkey Computer Systems has announced details of its latest PoS system, the Riva Retail Custom Till.

It is designed for the multiple retailer and provides descriptive invoices, price look-up plus stock

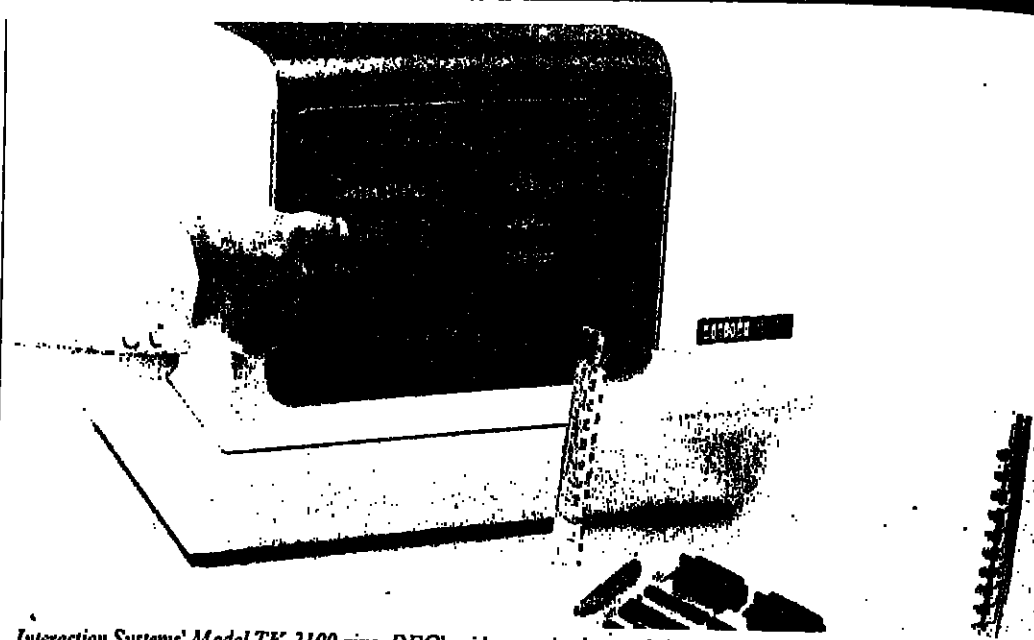
control and replenishment within the till. Each till costs £2,000.

The PoS till features twin microcomputers. It is fully solid state with a Riva designed automatic overnight communication system. In addition, the company has developed a computer system for the head office to handle buying and merchandising with links

to the company computer or standalone with accounts and warehouse stock control.

The Riva is said to offer solutions to the retailer, wholesaler and cash and carry operator.

Riva Turnkey Computer Systems (CW), Adam House, 66 Chorley Street, Bolton BL1 4AL. Tel: (0204) 39143.



Interaction Systems' Model TK-2100 gives DEC's video terminal a touch-sensitive CRT option.

## 'Fingertip' option for DEC video

A CUSTOM-designed touch-sensitive CRT option for the DEC VT100 video display terminal has been introduced by Interaction Systems and is available from Peripheral Hardware.

Designated the Model TK-2100, it complements the double-height double-width character feature of the VT100, resulting in a display that is suitable for menu selection applications.

The option allows data to be input to a system by touching with a fingertip the area where appropriate information is shown on the display screen of the VT100.

The option consists of a touch-sensitive faceplate, an electronic touch control and interface board, interconnecting cables and mounting hardware.

The Model TK-2100 is priced in single unit quantity at \$945.

Peripheral Hardware (CW), Armfield Close, West Molesey, Surrey. Tel: (04252) 71511.

## Delta's latest emulator offers more facilities

DISPLAY terminal manufacturer Delta Data Systems has repackaged its Burroughs TD830 emulator, providing more facilities.

Designated Delta 2830 II, the compact display terminal provides full hardware and software emulation of TD830 displays, still retaining the facilities of the original Delta product. These include printing facilities which allow the user to connect any printer to the system and use it as a polled device; an enhanced communications buffer which does not lock-out the keyboard during transmissions; and long distance concatenation of terminals together with the company's Auto Bypass feature which means that the user does not have to cable around a terminal in the concatenated chain which has been powered-down.

It also has the ability to handle TDI (Two Wire Direct Interface) and synchronous and asynchronous RS232 communications in the one terminal, which avoids upgrades, and enables a string of terminals to be concatenated from each TDI connection.

The compact terminal is lighter and therefore more portable than the original Delta 2830. The keyboard is connected by a spiral cord to the display unit which may be fitted with a tilt and swivel option. New features in the standard terminal include the ability to use the block numeric keypad additionally as RAM programmable function keys.

Delta Data Systems (CW), Swallowfield, Welwyn Garden City, Herts AL7 1JD. Tel: Welwyn Garden 33833.

## 8-inch disc drive holds 'twice normal storage'

A COMPACT 8-inch floppy disc drive called Thinline, measuring half the thickness of a single conventional 8-inch floppy disc drive, is being introduced on to the UK market by Hal Computers.

Manufactured by Tandon, the Thinline is claimed to allow twice the storage capacity to be packed in the same space occupied by previous earlier drives so that real capacities of up to four Mbytes are now achievable in the usual 8-inch floppy disc drive envelope size.

Thinline operates off only DC power (5v and 24v) so that it runs cool and has a step speed of only 3ms. A new method of construction also allows the drive to compensate for changes in temperature and humidity.

The read/write head is guaranteed for 15,000 media contact hours and the double-sided drive uses the patented Tandon head design.

Packaging from Hal, designed and built in Britain, together with power supplies is said to make incorporation into or addition to existing systems simple.

Two versions are available - the single sided TM848-1 and the double-sided TM848-2. Hal Computers (CW), 57 Woodham Lane, New Haw, Weybridge, Surrey KT15 3ND. Tel: (0932) 48346.

## Terminal is HP compatible

THE latest, and what is claimed to be most powerful, member in its range of Hewlett Packard compatible terminals has been introduced by Direct (UK).

The VP 828 allows users to operate on HP 3000 series computers in place of HP 2645A and 2624 terminals, also to operate as an Asii compliant terminal, like a DEC-VT 100.

The VP 828 is said to allow easy forms design and control with data editing and validation built into the forms. The V3000 screen management system is fully supported and optional Hewlett Packard compatible maths and large character font are available to extend the VP 828's capabilities.

All Direct terminals are housed in a unit with a folding detachable locking keyboard unit. Features not previously available, says the company, include 80 and 132 column screens and 8K for display memory. It can also communicate with other mainframes.

Direct (UK) (CW), 12 Rufford Court, Hardwick Grange, Woolston, Warrington WA1 5RP. Tel: (0925) 814072.

The man who, at 29, set out to create the world's largest computer company, talks to Kevin Cahill in Tokyo . . .

## Sord is set to repeat Japan's micro 'revolution' in the UK



SHINA . . . "doing the bit that Apple forgot."

THE fastest growing company in Japan for the past five years, out of 600,000 checked in a survey by the Japan Chamber of Commerce, was Sord Computer Systems. Its average annual growth in those five years was 85% and last year it passed 100%. Next year the company will grow by 30% according to its 37-year-old president, Takayoshi Shina.

This is nearly double the best growth achieved by Apple Inc (186%) - and Shina has usually been right in his predictions. With four months' trading under his belt, his unit sales have already doubled since the beginning of the year.

Total sales last year, mostly in Japan, were \$140m. This year, with the Sord French agent taking 6,000 machines, the German market taking off and Sord's Irish factory coming on full stream, total sales value is likely to move to over \$300 to \$400 million.

But those phenomenal growth rates alone are not what make Sord so special.

The company is seven years old,

and basically makes and sells microcomputers.

Sord Computer Systems is the brainchild of one man, Takayoshi Shina, who, in traditional Japanese fashion, went out on his own at the age of 29 with the ambition of creating the world's largest computer company.

He was supported by his mother and his uncle, together with his sales director and R&D director, both of whom are still with him. Shina describes the first three years as very difficult, bordering on a nightmare.

Japan is not geared to coping with, or financing, the kind of operation Shina embarked upon. Quite simply, he had decided, following a spell in the US, to build a microcomputer for half the price of anyone else's.

He took as his model the DEC PDP-11 which, years ago, was selling for \$10,000. Shina decided he wanted to challenge the market with a machine for \$5,000 and this strategy illustrates the key difference between Sord and Apple, with which it is often compared.

Shina's ultimate goal is a socio-technical one. He wants computer power so extensive and so cheap that people can "go back to the land, and work from home".

His aim is not a paperless office, but an officeless world. Shina has progressed his way towards a personal computer by working downwards, from the mini to the business micro, to the as yet undelivered personal computer.

Apple came in from the bottom, and now, with the Apple III, is directly challenging the market segment in which Shina has triumphed in Japan and in which he is seeking to repeat his success in Europe.

In terms of philosophical goals Shina sometimes sounds like Steve Jobs, the founder and current chairman of Apple.

The difference is that Shina is chief executive of Sord, still guides the company, and above all else usually decides where Sord is going.

The money man from Intel, Mike Markkula, has long held this function at Apple, and the effective departure of Steve Wozniak has consolidated his hold on that company.

But even more fundamental than the location of power in the company is the marketing approach adopted by Sord.

As one UK expatriate executive in Japan put it: "Shina does the bit that Apple forgot."

What he meant was that Sord provides not only a flexible machine on which to run all the conventional programming languages such as Cobol and Basic, but a fully supported easy-to-use language peculiar to Sord's own machines.

The language is PIPS, short for Pan Information Processing System.

To the programming expert it is a simplified, slow, high level language, directly interpretable.

To the small businessmen and divisional managers who have bought Sord machines in quantity it is a simple tool which, with a minimum of training, enables them to solve day-to-day problems.

It takes about 16 hours to learn enough about PIPS before a user can do all the common tasks of filing, reporting and business accounting. It takes about three and a half days to become fully proficient in the use of the language, to the point where communications problems, multiple machine and file tasks can be solved.

This is probably a 300% improvement on the speed at which Basic can be learnt, and a 500% improvement on the time it takes to become proficient in Basic to the point where it can effectively be applied to common business problems.

If Apple launched its machine mainly at the personal/hobbyist user, Shina launched his first machines at a different age and occupation group.

He targeted for himself the small businessman, and the 30 to 40-year-old company managers - what the Japanese call the "salary men".

Shina correctly reckoned that many of these would have tried Basic and either found it inapplicable, or just too difficult to learn in the time available, judging by the numbers of middle-aged managers passing through his central Tokyo store during the PIPS training sessions.

Shina says that middle management cannot afford to buy a computer system which compounds their business problem with the technical problem of learning how to program.

Given these problems and Shina's determination to make his system as usable as possible, the invention of PIPS became not an ideal, but a necessity.

And from that necessity has grown a further extension of Shina's concept of utility.

Traditionally Sord has carried out its marketing activities through a network of dealers with a single distributor per country or region.

In the UK for instance, the Japanese trading house Mitsui is currently acting as distributor with two agents, Midas in Sussex and Exleigh in Cornwall.

Shina now says that his factory and distribution operation in Dublin, called Orange Computer Products (OCP) will become the distributor for the UK with the main marketing thrust via the PIPS INN franchise operation.

PIPS INN is the logical extension of the PIPS language and Sord hardware concept, according to Shina.

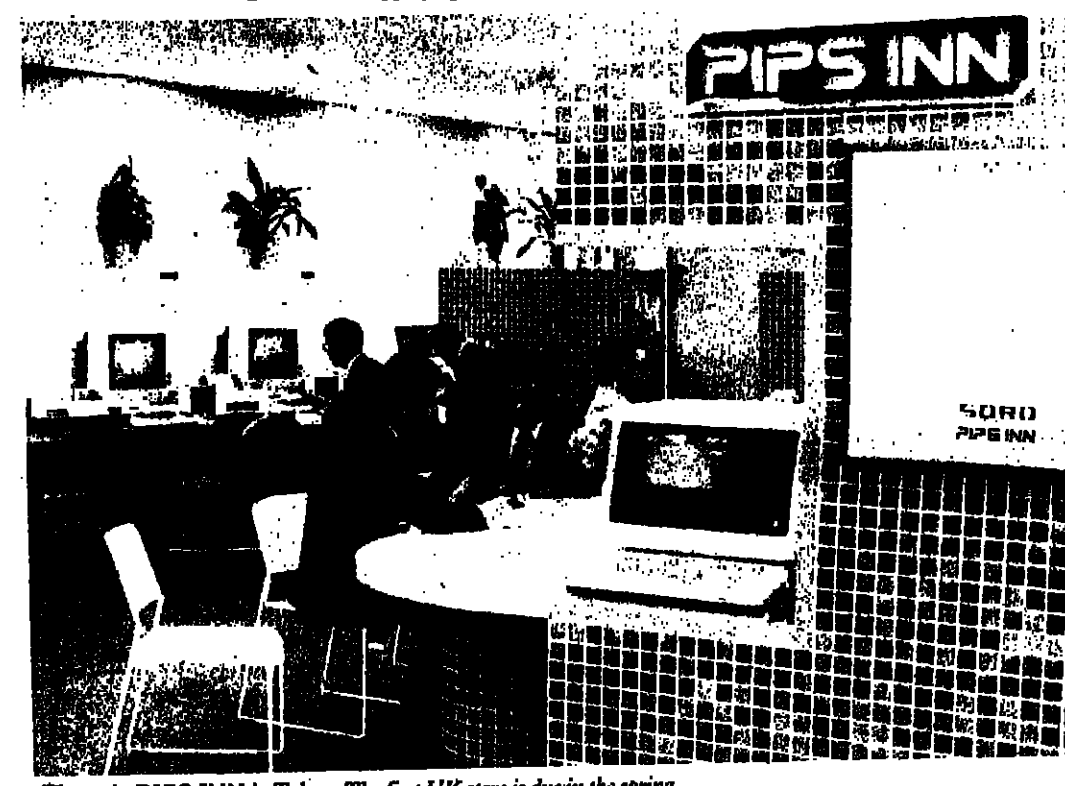
When a customer buys a Sord computer from a PIPS INN he or she gets with it a 16-hour education package and a complete catalogue of hardware and software support at an identifiable physical location. This is an approach directly opposite to that adopted by many micro distributors, particularly Apple, which has relied on small electrical retailers and other shops to supply the machine on the assumption that buyers will be sufficiently motivated to learn Basic themselves.

Shina plans to open the first PIPS INN in London early this year. He is currently opening them in Japan at the rate of two to three a week with a target for 1982 of 200.

Shina has also "done an Apple" by launching a Sord radio based learning system through a local radio station in Hokkaido.

So far over 2,200 people have booked to learn PIPS on Sord machines through this service.

Sord has caused a virtual revolution in the Japanese micro industry. It now looks as if the company is set to do the same here.



The main PIPS INN in Tokyo. The first UK store is due in the spring.

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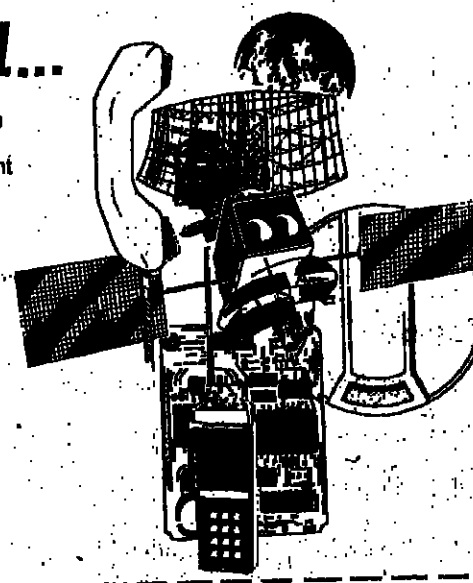
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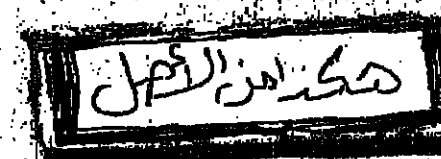
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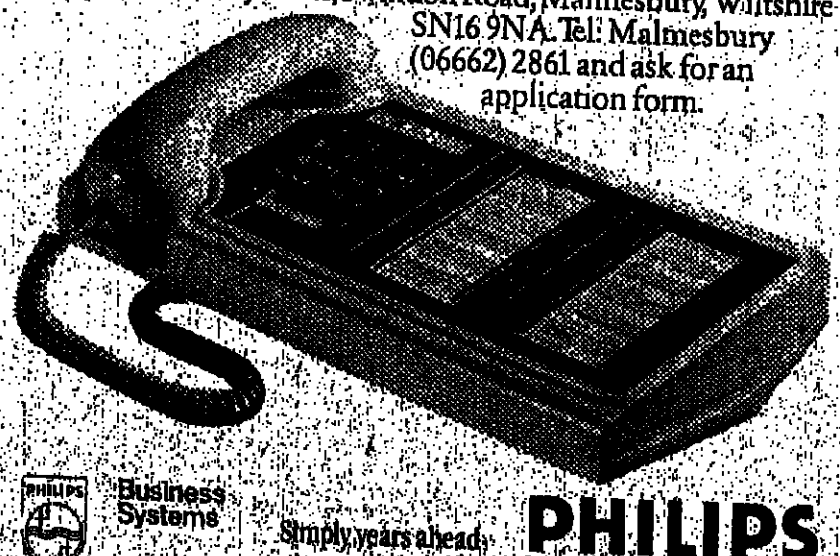
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### CAMBRIDGESHIRE

PETERBOROUGH  
TECHNICAL COLLEGE  
LECTURER IN COMPUTER  
STUDIES (DATA PROCESSING)  
Required as soon as possible to teach programming and computer application on Business and Management courses.  
Applicants should have a knowledge of BASIC and preferably COBOL together with experience in Business and Data Processing.  
Salary £5,034-£8,034 (Bunham Technical School) Commencing salary will be determined by experience and qualifications.  
Application forms and further details may be obtained from The Principal, Peterborough Technical College, 100, The Crescent, Peterborough PE1 4DZ. Closing date 29th January, 1982. (8033)

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DEPARTMENT OF  
MATHEMATICS AND  
COMPUTER SCIENCE

### LECTURER IN SENIOR LECTURER IN COMPUTER SCIENCE

Salary: £6,462-£12,141 p.a. inc. pension.  
Applicants should have substantial experience in use of computers in industry, commerce or the public sector. The duties of the person appointed will include responsibility for the placement in external organizations of the Department's sandwich degree students.  
Further particulars and application forms are obtainable from:

The Personnel Officer  
The Polytechnic of Wales  
PONTYPRIDD  
Mid Glamorgan  
CF37 1DL  
Telephone: (0443) 408123 ext. 2021  
CLOSING DATE: Friday, 22  
January, 1982. (8012)

## EXCELLENT CONTRACTING OPPORTUNITIES

Our immediate domestic and international consulting needs are detailed below. If you are of a professional disposition, skilled and dedicated, and wish to join our growing permanent or contract staff, please contact us in respect of these and future opportunities.

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MARK IV	Consultants & Programmer/Analysts	New York Africa; New York New York New York
SYSTEM 34	Programmer/Analysts	
COBOL, CICS FOCUS	Programmer/Analyst	

### U.K.

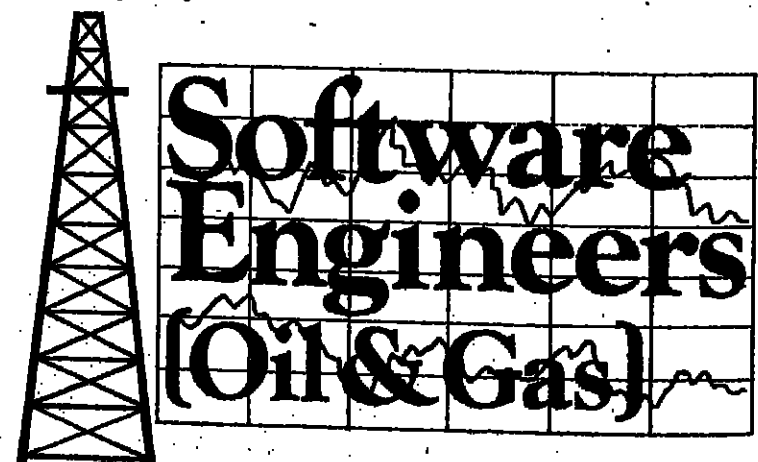
MARK IV	Programmer/Analysts	London; Home Counties London London London
HP3000 COBOL, IMS/DB COBOL, CICS ICL System 10	Programmers Programmer/Analyst Programmer/Analyst Programmers, Analyst/Programmers Designers/ Analysts/Programmers Designer, Programmer/ Analysts Programmer/Analyst Programmers	Home Counties Home Counties London London Essex Home Counties; London
SWIFT EXPERIENCE ADABAS		London
FILETAB COBOL, UNIVAC 1100 PRIME, FORTRAN or COBOL	Programmers	London London; Essex Home Counties; London



For more information  
please contact:  
Resources Department  
TANGENT COMPUTER SERVICES  
102/106 South Street  
Romford, Essex  
Tel: Romford (0708) 750201  
(24-hour answering service)

(8048)

Our client is a leading, dynamic and expanding BRITISH wireline logging and Geophysical Data Processing Company providing high quality and highly sophisticated services to the Oil & Gas Industry. They seek



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Our client is looking for graduate engineers who can research, develop and apply state of the art electronics and advanced on line computational techniques in the design of innovative software systems and instrumentation demanded in the exploration and production of energy reserves.

An attractive and generous salary goes with each appointment which

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You could be part of the team if you have experience in any of the following:-  
Analogue/Digital Techniques.  
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Real Time Applications Software.  
Microprocessors/Instrumentation Project Management.

To apply please write in confidence with full career details to

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West London Base to £10,000 + Car

Wang (UK) Ltd's leading position in office automation combines its highly successful data processing, word processing and communications products and systems. Substantial investment in product development has resulted in continual major product enhancements including the recently announced WANGNET, our local area networking system, and Digital Voice exchange.

As part of this development an exceptional opportunity has arisen for a Customer Support Specialist to support Wang's Dealer Network for the Wangwriter product. This is a senior position and will involve assisting dealers in developing their own product knowledge and support capabilities evaluating the capabilities of new Wangwriter software announcements and training dealer support personnel accordingly.

An element of sales support is also involved and applicants must have sufficient communicative skills to assist in presentations and demonstrations to potential dealers. A sound knowledge of WORD PROCESSING is required and a combination of the following skills and experience will be advantageous:

- Experience of Shared Logic Systems.
- Sales/Customer Support Experience.
- Experience of Micro's and the CP/M operating system.
- Experience of BASIC Programming.

The position is based in West London but the majority of the successful applicants time will be spent in the field. Besides the highly competitive salary, benefits include four weeks holiday, pension, life assurance, BUPA and stock purchase schemes.

If you are a self starting individual with energy, ambition and ability to succeed within a growth environment then telephone or write to Kevin McCourt quoting reference 5621.



Lloyd Chapman  
Associates

123, New Bond Street, London W1Y 0HR 01-499 7761

## VM Implementation

Holland c.£2,250/month

We are seeking an experienced Systems Programmer to implement VM/SP at an OS/VS1 installation in the Netherlands. VM will be run both on production 4341, with the operational VS1 system as a virtual machine, and on other 4341's to support graphics terminals using the CADAM package under CMS. Applicants should have a good all-round knowledge of VM, and must be prepared to take on all tasks associated with installing VM/SP in both these environments.

## CICS-IMS/DB Development

Berkshire c.£2,000/month

We are seeking an Analyst or Senior Analyst/Programmer to perform the technical design of an Order Processing System from an existing functional specification. The initial assignment period is three months but, after user approval, the successful applicant will be required to see the project through to implementation by the end of the year. Candidates should have detailed design and programming experience of at least one on-line project using CICS and a database. Knowledge of PL/I would be an advantage; as would some supervisory experience.

CDS is a 45 strong Anglo-Swiss Consultancy specialising in the following areas:  
• Systems Programming - MVS, VS1, VM, DOS/VSE, ACF, IMS/VS, CICS/VS.  
• DB/DC Application Development - Particularly IMS DB/DC, DL1 & CICS.  
For further details of the above positions or for an informal discussion on future European or UK assignments please contact us at our UK offices or on our private numbers at evenings/weekends. Brian Bledon 03446-5386 or Jhn Shaw 0950-24546.

**CDS** The IBM System  
Software Specialists

CDS Ltd, 87-78 Park Street, Cambridge, Surrey GU15 3PE. Tel. 0278 26846 Telex 858082

## GRADUATE SOFTWARE ENGINEER

We require a young graduate preferably aged under 30, with a solid electronic engineering background with experience in the following fields:

- Electronic digital display Microprocessor systems 8 + 16 bit
- Software experience with: Unix, C, Pascal, Assembler
- Simulation + graphics
- Experience in both high + low level languages

The successful applicant must be a highly motivated individual, and will join a team involved in design of new equipment based on microprocessors. The R + D activity is based in Ladbury, Herefordshire.  
Initial salary dependent on experience with good opportunities for advancement. Write, enclosing CV to: W. A. Clearwater, Micro Control Technology Ltd., 8 New Street, Ladbury, Herefordshire. (8049)

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Telephone 01-373 3063

## Jnr. C. and UNIX Programmers

Greater London : Salary to £9K

An internationally recognised supplier of Hardware and Software Systems has several requirements within a newly-created operating division. Suitable respondents, preferably aged 22-27 years, should hold at least one numerate degree and be fluent in C, BASIC, or PASCAL. These who can combine this fluency with an understanding of Assembler will be favourably considered. Of additional interest will be those who have current or very recent direct involvement in a systems development role on any recognised 16-bit microprocessor running under UNIX or CP/M. Although the work content is essentially in-house, at least upon appointment, a degree of mobility is essential for client visits to national and international sites during implementation and subsequent live running. Ref: L/J/H

## Technical Instructors

Thames Valley : Salary to £11K

As a result of recent sales successes, a recognised supplier of Microprocessor-based products is seeking several Technical Instructors and Lecturers to supplement its existing training department. It is a prime requirement for all candidates to hold at least one numerate degree and additionally, to have post-graduate experience of three to five years with a Systems Supplier or Microprocessor Development House. Ideally, candidates should offer hands-on experience in the areas of software interfacing, drivers, protocols and diagnostics whilst for certain positions an appreciation of 8085/8086 hardware would be especially welcome. Naturally, good oral and written skills are imperative in conjunction with an easy-going and business-minded personality. Ref: L/J/H

## Systems Design

Herts. : Salaries to £10.5K

A leading supplier of hardware and software systems, with headquarters in rural Hertfordshire, has an immediate requirement for additional Systems Engineers. Suitable applicants will hold a numerate degree and offer at least two years' industrial experience in one or more of communications, networking, firmware design and microprocessor technology. It is essential that you possess good written and oral communication skills and enjoy customer contact. As a member of the Systems Department you will be involved in the design and installation of hardware and systems software. Particular fields of activity will include data-communications, networking and terminal interface and logic circuit design. Ref: L/J/H

## CAD/CAM Sales & Support

Home Counties : Salary to £16K

A leading supplier of CAD/CAM systems to the process, manufacturing and electronics industries is actively recruiting for its Home Counties and Midlands operations. A number of diverse positions are available. For all positions you should preferably be aged 25-40 years and offer a minimum of three years' practical engineering design or manufacturing experience. As a Sales Executive or Marketing Engineer you should currently be employed within a direct sales role. Work content will include the demonstration of software and graphics system to both prospective and existing customers at engineer and director level respectively. Those already working within a Technical Support role should be fully at fault with the definition of potential user requirements and be accustomed to the resolution of on-site operational problems. Candidates are encouraged to apply if they are already resident within the West Country, South Coast, Northern Home Counties and West Midlands. Ref: L/J/H

## Fortran Programmers

N. Home Counties : Salaries to £9K

A long-established engineering systems supplier based in the Northern Home Counties has an immediate requirement for additional Fortran Programmers. Suitable applicants will have a minimum of six months' post-graduate programming experience in a real-time microcomputer environment. A knowledge of CAD/CAM techniques, whilst not essential, would be considered very useful. These positions represent outstanding opportunities for applicants who wish to be involved in the design and development of complete systems in the engineering industry. Particular projects which the company is currently involved in are Mechanical Drawing, Graphics, Production Control and I.C. Design. Ref: L/J/H

## Real-Time Programmers

London/E.E.C. : Salaries to £16K

Our client is a Systems and Software House with its headquarters in Central London and subsidiaries based in several European locations. Its excellent reputation within real-time applications has led to the acquisition of many lucrative projects in London and E.E.C. countries. Consequently, additional Real-Time Programmers are required. Suitable candidates will have a minimum of two years' programming experience in one high-level language, preferably FORTRAN or PASCAL, in addition to an Assembler. Whilst knowledge of particular hardware is not important, respondents with exposure to DEC PDP11, or any microcomputer, will be especially favoured. Applications areas of interest will be Process Control, Message/Packet Switching or Data Communications. Ref: L/J/C

## Digital Engineering

Thames Valley : Salaries to £15K

Several vacancies for Senior Project Engineers have arisen in the Research and Development facility of a leading computer manufacturer. Suitable applicants will possess an H.N.C. or, preferably, a degree in Electrical and/or Electronic Engineering, followed by at least four years in industry. Experience should have been gained in the fields of digital design and engineering with a strong emphasis on circuit and logic design. An ability to program in PASCAL, and a knowledge of the internals of at least one operating system, whilst not obligatory, would be very welcome and, also, will attract a salary premium. It is, however, essential that all respondents have had experience of managing a small project team. Ref: L/J/H

## Communications Engineers

Bedfordshire : Salaries to £15K

A number of Communications Engineers from Programmer to Project Leader level are required for the Research and Development facility of a U.S.-owned computer manufacturer. Suitable applicants will, preferably, be currently employed in a development capacity with either a systems house or manufacturer. Particular techniques should include at least two years' experience of a high level language, preferably PL/I, PASCAL or CORAL, in a data communications or networking environment. For the more senior positions it is essential that respondents are familiar with X25 protocol techniques and also have been a senior member of a design team developing at least one major system providing shared communications functions. Ref: L/J/A

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**BERKSHIRE/WEST LONDON****2+ YEARS' IBM EXPERIENCE?****SYSTEMS PROGRAMMERS  
SENIOR PROGRAMMERS  
ANALYST PROGRAMMERS****£9,000-£13,000 + CAR**

We are retained by one of the world's largest independent suppliers of packaged application software to recruit IBM experienced computer professionals for their technical support group. Work will involve pre and post sales support on technical aspects of the company's range of financial packages. This will include system installation and demonstration on clients' machines, together with development of systems to cater for the needs of this expanding market.

IBM COBOL programming experience is essential and for some positions, experience of CICS, DL/1 or IMS would be an advantage.

Apart from the right technical background, we are looking for professionals who enjoy client and prospect contact and excel in this area. Mobility is required and a driving licence is essential. For those who enjoy overseas travel, opportunities exist to work on short term assignments in the U.S.A. and the Middle East.

These are challenging and exceptional career opportunities for high calibre and ambitious computer professionals who will be rewarded with a high salary, company car, BUPA, annual bonus and excellent pension scheme.

For further information, please contact MARK IRENS quoting reference CW 0701/1

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N.W.10****ANALYST TO  
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A division of a major U.K. manufacturing/engineering organisation is seeking an Analyst to be directly involved in the implementation of applications software packages on their newly acquired CMC REALITY mini computer.

This is a ground floor opportunity for a self-motivated graduate with 1-2 years' manufacturing systems experience to implement the above systems including training, testing, specification of additional requirements and installation of the systems into a working environment.

Although not absolutely necessary (as training will be given), it would be advantageous to have some experience of database, IBM 3033 or CMC REALITY equipment and O&M procedures.

For further information, please contact MARK IRENS - Advising Director quoting reference CW 0701/2

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Our Clients are one of the largest and most prestigious bureaux in the country. They are seeking an experienced Sales Manager aged 33-45 to run a branch of at least twenty people.

Please telephone BOB BOWER - Advising Director for details.

Ref. CW 0701/3a

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COMMERCIAL APPLICATIONS****BASIC c.£9,000. QUOTA c.£18,000  
CAR**

We are currently seeking successful sales personnel for a wide variety of companies in the industry from manufacturers to bureaux and "turnkey" houses.

If you are seeking a better position, please discuss the situation with us, we may well be able to help and will certainly advise.

Ref. CW 0701/3b

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TERRITORY****BASIC £10,000 p.a. QUOTA £25,000+  
COMPANY CAR ETC.**

Our Clients are poised to take the OEM/Distributor market place by storm with their range of disk drives and printers. Already Europe's largest supplier of computer systems, they are ideally placed to capitalise on this new operation and have already an impressive order book.

They need another Sales Executive to join their successful team. The rewards will be excellent for the right person who should have:

- ★ A strong technical/engineering background in current disk technology.
- ★ A sound understanding of the OEM/Distributor market place in U.K.
- ★ A successful record in sales or support with the ability to move into sales.

Please telephone BOB BOWER - Advising Director for details.

Ref. CW 0701/4

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In the highly-competitive world of timesharing bureaux, our clients have proved remarkably successful - a publicly quoted company with sound financial resource, they have achieved a formidable 5-year growth record, averaging in excess of 200% per annum. In doing so, they have earned an outstanding reputation for providing first-rate timesharing services on a sophisticated range

of DEC hardware, to be augmented by additional VAX machines early in 1982.

In line with such expansion, they now wish to appoint two experienced computer professionals to senior positions within the company, as follows:

**TWO  
PROJECT  
LEADERS**

You will play a leading role in the design, development, implementation and maintenance of highly sophisticated packaged applications, from analysis of users' business requirements through to assessing, controlling and assisting the programming effort in implementing the appropriate solution. Ideally in your mid-/late-twenties, you will have gained at least 3 years' experience in the design and development of systems in BASIC for DEC equipment. In addition to proven skills in both analysis and programming, you should have a sound technical appreciation of on-line/database-orientated applications; in-depth knowledge of RSTS, VMS or RSX is essential. Above all you will display strong personal qualities and management potential, and the ability to liaise with clients at senior level.

Candidates for both positions should possess sound academic qualifications and a high degree of innovation and self motivation. Career prospects are excellent within a company noted for salary reviews and advancement strictly on merit and for young, flexible management.

To discuss these opportunities in more detail, and in strictest confidence, contact Barry Latchford on the number below, or on Newick (STD 082572) 3197 after 7.00 p.m. Alternatively, write to us as advising consultants quoting ref. 286/7.

**Barry Latchford Associates**

Blair House, 7 Hazelgrove Road, Haywards Heath, West Sussex RH16 3PH

Tel: (0444)

59815/6/7

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YOUR career can really "Take-off" in 1982. Our client, already recognised internationally as market leaders in their own dynamic environment, are URGENTLY seeking to fill EIGHT new programming positions created by exciting new European expansion.

An impressive variety of hardware awaits you, including IBM 4341/2, Honeywell, System & Prime. Professionalism is the keynote of our client's management. Opportunity for progression is available to ALL staff.

**THE REQUIREMENT**

A MINIMUM of ONE year's programming on IBM with knowledge of DOS, CMS, or VS1 is ideal, but consideration will be given to other experience.

**THE LOCATION**

West London, ideally situated for Central Line & Car travel.

**THE REWARDS**

Salaries between £8K-£10K  
Work in Italy in 1982, should you wish.  
Stability & Stimulation.

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**COMPUTALINK Ltd**  
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# We are expanding and require additional programming staff:

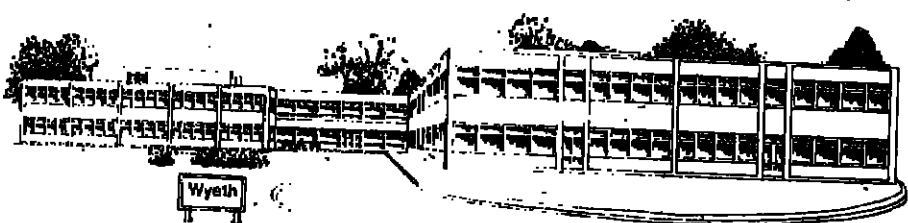
Wyeth Laboratories is a major international pharmaceutical company with a sound record of sustained growth and development in the fields of medicine. In keeping with a company in the forefront of the industry a major expansion is taking place in Data Processing and an IBM 4300 series computer has just been commissioned. A new office extension including a computer suite is under construction. Wang and IBM word processors are already in use and an electronic PABX will be installed in the near future.

To progress further we intend to develop new techniques based on CICS and TOTAL and wish to appoint the following additional experienced personnel.

## Team Leader-

## Application Programming (Reference EDP/1)

A Programmer with several years' experience of BAL and PL/1 is required to lead a team in commercial applications work. Candidates should also have some knowledge of the above TP monitor and database. The ability to lead and direct project groups is essential.



## Analyst Programmer (Reference EDP/4)

We plan to develop computerised designs to analyse scientific data from clinical trials and in order to do this we are looking for an Analyst Programmer with knowledge of PL/1 to provide expertise in the use and capabilities of SAS.

Initially the person appointed will work closely with our medical statisticians and clinical research officers and may eventually be involved in the extension of SAS facilities to our commercial activities.

## Programmer (Reference EDP/5)

A PL/1 Programmer is required to provide programming support for the new clinical research applications team.

Candidates must have a sound knowledge of PL/1 and CICS. Some previous experience of statistical applications would be useful.

If you are interested in any of these vacancies please apply to:

Mrs. J. Andrews, Personnel Officer, Wyeth Laboratories,  
Huntcombe Lane South, Taplow, Maidenhead,  
Berkshire SL6 0PH.  
Telephone: Slough 28311 Extension 264.



**Wyeth Laboratories**

(7397)

# ICL PROGRAMMERS AND ANALYSTS

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Townsend Thoresen, part of the European Ferries Group, has been voted Britain's top ferry company for the third year running. This success has led to a major expansion of the company's computer activities, based upon a large ICL 2900 series installation in Dover, with micros in several locations.

An integrated on-line reservation system is operating with terminals throughout the U.K., and in Amsterdam, Brussels, Dusseldorf and Paris. Furthermore, a major on-line system is being developed to include inter-active Viewdata and Prestel Gateway.

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To be responsible for the design of major on-line systems in an ICL environment. You must have appropriate experience and be able to work without supervision. Overseas travel is a distinct possibility.

## ANALYST

You must have an ICL background and considerable experience in user-religion.

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Five to ten years ICL Cobol experience is desirable with some exposure to on-line systems. You must be able to work without supervision and assist in the preparation of programme specifications.

## PROGRAMMER

Minimum 18 months Cobol, ICL experience is required and if you have TABN and on-line experience, we'll be even more interested in you.

For all the above posts, knowledge of on-line reservation systems is particularly relevant, but we will be pleased to see applicants with good technical backgrounds, wishing to further their careers in this important area.

This is an excellent opportunity for self-motivated professionals to join a small, dynamic team, working within one of Britain's most progressive companies, on exciting new projects.

Salaries are negotiable and conditions of employment, which include concessionary travel and relocation expenses where appropriate, will all prove very competitive.

Write or telephone 0304 204040 now for an application form to: Derek Weaver, Senior Personnel Officer, Townsend Thoresen, 1, Camden Crescent, Dover, Kent, CT16 1LD.



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We've a new management team here at Computer People North. Chris Lancashire, who built up our company over the past 5 years is now helping to get us established in California, heading up our new Los Angeles office. In his place we have the dynamic team who have been instrumental in trebling the turnover of Computer People Midlands: Lee Walkinshaw and Derek Batchelor. A new team with a new style.

In addition to consolidating our presence in virtually all major contract staff users in the north, we are rapidly introducing many new clients to the concept of contracts resourcing.

We're a member of the VLI group - the biggest in the business. But we're only big because we do a better job for our clients and give a better deal to our contract staff. Come along to our offices on Thursday, 21st March and talk to us about a better deal for you in '82.

Walk in between 5 and 9pm. We'll welcome you with a glass of wine and give you the facts about quality assignments suited to you. If you are unable to attend, send the coupon below or telephone and ask for Debbie Bates, Bill Simpson, Roger Pond-Jones, or Derek Batchelor on 061-491 1666.

# ..in the North.

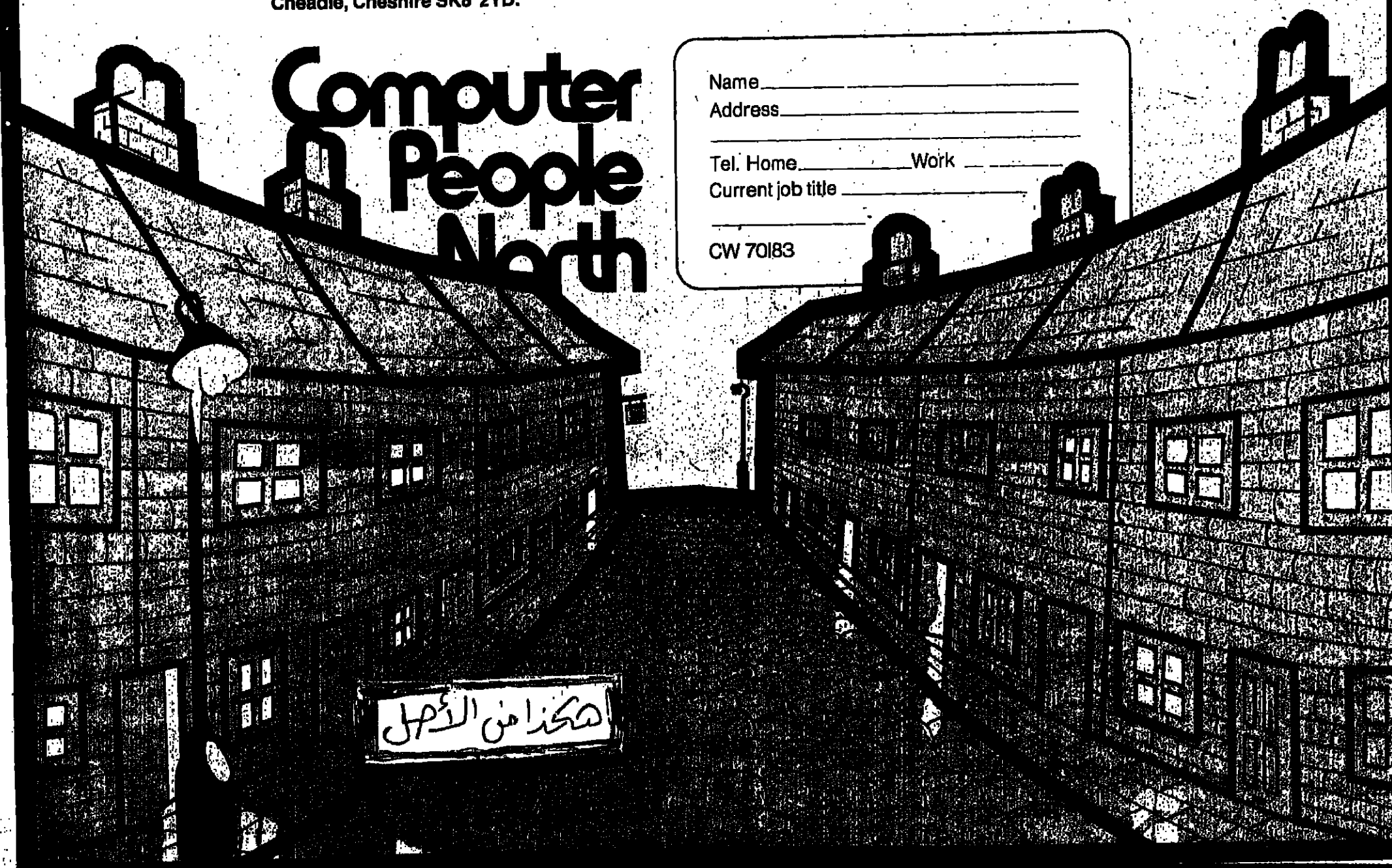
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★ PHONE US FROM JAN. 4th ON OUR NEW  
NUMBER AND AUTOMATICALLY QUALIFY FOR  
OUR **CHAMPAGNE** COMPETITION.

(0030)



## Saudi Arabia

ARABIAN DATA SYSTEMS (ADS) the leading Computer Services Company in Saudi Arabia is expanding one of its Facilities Management Centres to a multi-mode IBM 370/30XX MVS/JES 2 environment including MAS, NJE and MSNF. ADS offers an attractive remuneration package which allows for substantial financial accumulation, free housing, medical insurance, transportation, etc. The expansion has resulted in the following vacancies:

### Systems Programmers

**£18,000-£24,000 tax free + Benefits**

To provide installation support on MVS/JES 2, MAS, NJE also planning installation and tuning. Applicants must have extensive software experience with at least two years working on one of the above products. To provide installation support on ACF/VTAM, ACF/NCP and MSNF. Minimum requirements are extensive MVS experience plus recent experience directly related to the above products.

### Performance Measurement/Capacity Planning Consultant

**£18,000-£24,000 tax free + Benefits**

To provide performance measurement and capacity planning in an MVS/JES 2 environment. Applicants must have extensive systems programming experience and have worked in a measurement and tuning capacity.

### Data Services Manager

**I/O Production Control**  
**£19,000 tax free + Benefits**

Responsible for the building-up and management of a substantial and diverse Data Entry service and related user interface sections with local and remote units (expected staff establishment 200). Applicants must have had supervisory experience of more than one data entry system, a sound background in IBM operations, at least shift leader level, and OS/VS1 or MVS exposure.

### Programmer/Analysts

**£15,000-£20,000 tax free + Benefits**

To work within financial management, administration and database development teams. Applicants must have extensive IBM OS/VS1 or MVS programming experience and have worked in a development environment using COBOL, PL1 or Assembler.

For further information, telephone Jenny Dalrymple-Hay or Ian Murray-West on 01-493 2547 (day) or respectively Beaconsfield (04948) 4879, Milton Keynes (008) 562415 (evenings/weekends), or write quoting ref. 666.

DALRYMPLE & PARTNERS LTD, 1 HALF MOON STREET, LONDON W1

## ANALYST PROGS.

**BASIC**  
**c.£8,000 P.A.**

This small software house, based in London, requires a BASIC programmer with two years' plus experience, to join them as an Analyst Programmer working on Business Systems. This is an excellent opportunity for a young person to gain good systems knowledge, whilst working on development projects for small businesses.

## ANALYST PROGS.

**COBOL DOS/VSE**  
**LONDON**  
**c£12,000 P.A.**

We have an unusual situation here where a major group has recently formed a new computer bureau/software house to service its group requirements as well as external companies' needs. Based on the East London/Essex borders, the Company requires an additional person, aged 25-30, to join them with responsibilities for Design/Programming on major development projects. The experience we require is four/five years' programming in COBOL plus design/analysis experience with DL1 and CICS. Also it should be mentioned that whilst it is not intended to appoint managers at present, opportunities do exist for team leading type responsibilities, and certainly real promotional chances for the future. Lastly, the Company has bought IBM 4300 equipment, and all the systems being developed will be On-Line/Real Time. Also being part of an international group, opportunities exist for overseas travel, especially Germany.

## FREELANCE CONTRACTS

### PROGRAMMERS

PL1 DOS/VSE Structures	W London	6-12 months+
PL1 OS	N London	6 months+
PL1 IMS/DB CICS	London	6 months+
BASIC MICRO (T.B.C.)		3 months+
COBOL DOS/VSE TOTAL CICS	W London	12 months+
CPS	NW London	3 months+
COBOL CICS/DL1 (Senior)	Middlesex	3 months+
COBOL VME/R Structured	W London	6 months+
COBOL DOS/VSE Copec	S Coast	3 months+
COBOL OS/MVS JSP	W London	6 months+
RTL 2 RSX(11)M (or MACRO)	W Country	6-12 months+

### ANALYST PROGRAMMERS

MACR 11 RSX(11)M (£450+)	W Country	6-12 months+
COBOL IMS DB/DC	C London	6 months+
COBOL DOS/VSE Payroll	S London	4 months+
COBOL RAMIS	C London	6 months+

### ANALYSTS

Analysts IBM Financial	S Coast	6 months+
Business Analysts IBM	N Cambridge	3-12 months+
RAMIS ANALYST/DESIGNER	C London	6 months+
Financial IBM	N London	6 months+
IMS Consultant	N London	6 months+

### SAUDI ARABIA

PL1 JCL Programmer Analysts		6 months
Mk IV Programmer Analysts		6 months
Training Consultant (IBM) PL1		6 months
Consultants		6 months
FORTRAN (IBM) OS/MVS Programmer Analysts		6 months+

We require additional staff for the above posts. Our rates range from £800 to £950 p.w. plus accommodation, air fares and living allowances. If you are interested, please respond urgently.

CONTACT Keith Dymond - any evening up to 10 p.m. on: 08926-8548

(0051)

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For further information and immediate confidential interview, contact Chris Fry on 01 935 0671 (24 hour answering service) or 05827 2354 evenings and weekends or Paul Pearce on 021 236 3781 or 021 308 4908 evenings and weekends.



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Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY.  
Manchester 061-833 0427 Blackfriars House, The Parsonage, Manchester M3 2JA.  
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### PROGRAMMERS

**to £11,500**

#### HP COBOL

Senior and Junior programmers are required by sites in C. London and the Home Counties. Applicants should have from 1 to 4 years' experience preferably gained in an H.P. environment. These positions are with progressive companies offering excellent career prospects and a variety of perks including mortgage subsidy, travel allowance, etc.

### PROGRAMMER

**c £9,000**

#### ICL COBOL

Expanding City based installation seeks a programmer with around 2 years' Cobol experience gained on the ICL 2900 range. The preferred applicant will have both on-line and database experience with a good commercial background. The company is shortly installing new hardware and can offer excellent career prospects and perks including a substantial bonus scheme.

### PROGRAMMER/ANALYST

**c £9,500**

#### HONEYWELL

Financial installation in C. London requires a programmer/analyst to complement their expanding development team working on new systems for their recently installed Honeywell 16 machines. Applicants should have around 3 years' programming experience together with some systems exposure. Knowledge of screenwrite would be advantageous. As well as a good career path the company offers an outstanding benefits package.

### SYSTEMS PROGRAMMER

**c £11,500**

#### BURROUGHS ALGOL

A large company whose interests are well known are currently looking for an experienced systems programmer to join their specialist team on a wide variety of applications. A minimum of 3 years' experience utilising MCP and datacomm with the emphasis on datacomm is required with extensive use of algol. Any knowledge of cobol would be useful. A good relocation package is offered to this site in Surrey. This requirement is urgent.

### PROGRAMMER

**c £8,000**

#### NCR COBOL

International financial organisation requires a programmer with NCR cobol and IMSQ experience. Any exposure to IBM RPGII would be useful. This is an excellent opportunity to join a rapidly expanding D.P. department and become involved in a variety of systems and hardware with the possibility of some overseas travel. Usual banking perks are offered.

### PROGRAMMER

**£8,000**

#### BASIC +

Bureau based in C. London is looking for a programmer with at least 18 months' Basic + gained in a DEC RSTSE background. Any accounting knowledge would be useful since the software package used is financial. This is an opportunity to join a small friendly but professional D.P. department.

### SENIOR PROGRAMMER

**c £9,500**

#### HONEYWELL

Manufacturing company based in Middx. using a L64 DPS mainframe is currently seeking to recruit a programmer with 3 years' + Cobol experience. Knowledge of TDS is desirable as the company is expanding and adopting all the latest software releases. Perks are excellent and include 5 weeks holiday and 50% discount on company products.

### OPERATIONS SUPER

**c £8,000**

#### HP 3000

A large company require an operations professional to look after their operations area. The successful applicant will have a proven track record and be able to demonstrate technical expertise and leadership qualities. Good knowledge of HP 3000 with extensive experience of modems, multiplexers and the OS software routines is essential. Assisted relocation where necessary.

### SENIOR PROGRAMMER

**£9,500**

#### BASIC+/+2.

At least 2 years' Basic+ with some Basic+2 is required by a large City user. As well as programming ability applicants must be able to manage junior staff. All programming staff are encouraged to gain early involvement with analysis since there are no analyst/programmers.

### PROGRAMMER

**£7,500**

#### BASIC/VAX

A merchant bank based in the City has a requirement for a young and enthusiastic programmer to complement their existing team. Ideally the client would want VAX experience (having just taken delivery of a VAX) but would consider DEC RSX knowledge. Standard banking benefits apply.

### PROGRAMMERS

**£8,500**

#### IBM COBOL

A first time user has recently installed an IBM 4341 under DOS/VSE. At the moment they are using a software house but wish to pull away and recruit their own team. The requirement is at least 2 years' IBM Cobol with some CICS experience. This is a ground floor opportunity for programmers who wish to move into systems programming as there is no in-house systems back up at present.

(7899)



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مكنا من الذحل



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For further information telephone Jenny Dalrymple - Hay or Ian Murray - West on 01-493 2947 (day) or respectively Beaconsfield (04948) 4578; Milton Keynes (0908) 563415 (evenings/weekends) or write quoting ref: CV9887.

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You should have:

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This is a permanent post in the Company's DP department. You will be based at the computer centre and will report to the Systems Development Manager. If you think this is your opportunity, act now and write or telephone me - Robin Aikman - in confidence, for an application form. Assistance will be given with removal expenses. Interviews will be in London.



**Robin Aikman and Associates**  
9 Montemotte Road, London N8 8RL  
telephone: 01-340 9636

(W122)

### CHIEF, APPLICATION SOFTWARE BRANCH

NATO Agency in LUXEMBOURG seeks candidates for position of CHIEF, APPLICATION SOFTWARE BRANCH in EDP DIVISION, supervising multinational staff of analysts and programmers.

Minimum qualifications include a university degree or equivalent education, three years of supervisory experience, a good knowledge of current developmental technology, especially structured design and programming, and an excellent knowledge of either English or French and a good knowledge of the other.

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£7,371-£7,875 p.a.

Applications are presently implemented on IBM 4341 hardware under DOS/VSE with Total, supporting supply procurement and financial operations. Agency is moving progressively from centralized to distributed and batch to on-line processing modes.

Competitive salary is offered plus generous allowance for housing. Candidates must be nationals of a NATO member country.

Detailed curriculum vitae must reach before JANUARY 11, 1982, the CHIEF PERSONNEL DIVISION, NATO Supply Center, B.P. 13 - L-8326 CAPEL-LEN.

(7888)

## DP PROFESSIONALS -DUBAI

We are a worldwide engineering and construction company and currently have two openings in our Data Processing Department in Dubai, UAE. Our hardware is an IBM 4331-02 mainframe with a linked four phase system 1V/90 for data entry and word processing. The 4331 is due to be replaced with a 4341 in mid 1982. Current software includes VM/CMS and DOS/VSE.

### Systems Programmer

To complement existing software programming group and assist in the maintenance and enhancement of all IBM and third party software. Applicants should have at least 2 years' data processing experience and be familiar with IBM 43XX hardware and software.

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To assist in the development and maintenance of all operational procedures and to act as liaison between development staff and DP Entry Operators and Data Control Staff. Applicants should have had at least 2 years' experience of DP operations and, ideally, be familiar with analysis.

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### SENIOR SYSTEMS PROGRAMMERS

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### PROGRAMMERS

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### TECHNICAL SUPPORT

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Jordan

Salary £15,000 (tax free)

A qualified computer systems and programming person is required to train and develop further the business systems of a public utility in the Hashemite Kingdom of Jordan. Present systems in accounting, billing, stores and payroll are operating on a Wang V.S. machine in language basic and COBOL. Future projects include automatic computer based management reporting systems and financial models.

The job will be to control all systems and programming work and the development of sound practices and documentation for all systems and programming work. Great importance is attached to the training and development of present staff. Knowledge of Arabic is not necessary as good English is spoken by the majority of senior personnel. Jordan has a pleasant climate and is a very stable country offering many historical places of interest and archaeological treasures.

Terms of contract would be for one year, with an option to renew employment package, and include free furnished accommodation, medical insurance and transport. Interviews will be arranged in London. Please send detailed cv. to Brian Curtis, Richard Brooks and Partners, Gough House, 67 Eden Street, Kingston-upon-Thames, Surrey, together with contact telephone number if possible. Alternatively call him on 01-549 8882.

(8052)

### WEST YORKSHIRE METROPOLITAN COUNTY COUNCIL

#### ASSISTANT PROGRAMMER/ANALYST

Post ref: E8 10002

A science or engineering graduate required to support the computer groups aims of providing cost-effective processing on two DEC VAX 11/780 computers and on IBM 3031.

A thorough knowledge of FORTRAN is essential and experience of computer graphics interactive programming and Software evaluation would be invaluable.

Commanding salary within the range £8652 to £9528 will depend on qualifications and experience.

Enquiries in respect of the duties of the post to: MR. R. WEST  
WAKEFIELD 267111 Ext. 3518

Applications welcome from disabled people. Application forms and further details from the Directorate of Planning, Engineering and Transportation, Room 238, County Hall, Wakefield WF1 2OW. To be returned by the 29th January 1982.

(8054)

### URGENTLY REQUIRED

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### CANADA

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(8021)

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We need Systems Analysts for an urgent assignment in CAMBRIDGESHIRE to work on Financial Systems Implementation. You must have an IBM background including DOS/VS and knowledge of CICS and DL/1 would be useful.

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WE REQUIRE

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A software Engineer to join a small team developing communications software for interactive terminal, graphics and remote job entry access to the SERCs computing centres using microprocessor based communications hardware, and mini-computer packet switches and front-end processors. For further details contact Mr. E. Owen, Warrington 85000 ext. 218. (Ref. No. DL/778).

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A computer control systems specialist to join a small team developing the control system for the Synchrotron Radiation Source (a 2 GeV Electron Storage Ring) and its experimental beam lines. The system is based on Perkin-Elmer 16 and 386 bit computers. Experience in programming in both assembler and high level languages (especially RPL/2), also in digital interface hardware and microprocessor applications, would be advantageous. For further details contact Dr. D. E. Poole, Warrington 85000, ext. 210. (Ref. No. DL/778).

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An Electronics Engineer to join a team working in the areas of data collection and computer communications. The successful applicant will be involved in the specification and design of up-to-date with the increasing demands of scientific research. Experience of digital electronics work would be an advantage. For further details contact Mr. J. R. Alexander, Warrington 85000, ext. 388. (Ref. No. DL/777).

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An applications programmer to develop programmes (mainly in FORTRAN) and to supervise day-to-day operation of the microdensitometer service which involves the digitisation of photographic images and subsequent computer processing for measurement, display and pattern recognition purposes. For further details contact Dr. M. Elder, Warrington 85000, ext. 380. (Ref. No. DL/775).

CLOSING DATE: 26th JANUARY 1982.

Please telephone Warrington 85000, ext. 467 for an

application form, or write quoting the appropriate

reference number to:

The Personnel Officer,

Daresbury Laboratory, Science & Engineering

Research Council,

Daresbury,

Warrington WA4 4AD.

(7597)

**Daresbury**  
SCIENCE & ENGINEERING  
RESEARCH COUNCIL

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for Planning and Technological Development requires

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Although the projects are in Saudi Arabia some of the work may be done in London. Generous benefits while working in Saudi Arabia - Free housing, medical care and insurance, transportation allowance and paid air tickets.

Please send CVs, telephone No. and application indicating earliest date of availability to:  
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South Acre, London NW9

(8043)

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HEAD OF RECRUITMENT & SELECTION,

ZAKUM DEVELOPMENT COMPANY,

P.O. BOX 6808,

ABU DHABI, U.A.E.

(7593)

## CAN YOU TEACH COMPUTING OR ELECTRONICS?

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- Micro-processing
- Basic Electronics

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There is also a vacancy for a Supervisor to instruct Trainees in the use and potential of

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All positions may require some evening instruction. Benefits include superannuation scheme and removal assistance where appropriate.

Application forms and further particulars are available from the Personnel Manager, District of the Wirkin Council, P.O. Box 213, Malinsale House, Telford, Shropshire TF3 4LD, returnable by January 19th, 1982. (Please mention PER).

Applications are welcome from both men and women

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(8051)

## CONTRACTS

Programmer with system development experience, on POP-11 System.

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(8059)

# SYSTEMS ANALYSTS & PROGRAMMERS

## Cambridgeshire

### INSTALLATION

4341 - DL/1, CICS/VS  
8100 - DPPX, DTMS, COBOL

### SYSTEMS DEVELOPMENT

FINANCIAL (Accounts Payable, Receivable, General Ledger, Financial Modelling).

ORDER PROCESSING  
DISTRIBUTED DATA PROCESSING  
STOCK CONTROL  
PERSONAL COMPUTING  
WORD PROCESSING

### GENERAL

Our client is a major British company with an outstanding track record showing excellent growth in both turnover and profits. The Head Office is located in a pleasant city with excellent education and leisure facilities. A wide choice of housing is available at prices well below the National average.

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RECRUITMENT CONSULTANTS  
P.O. Box 63, Copthall Tower House, Harrogate, HG1 1TS. Harrogate 66628  
24 HOUR ANSWERING SERVICE (0423) 55311

### SYSTEMS ANALYSTS

Systems Analysts are required at various grades to fulfil the requirements of our systems development plan. Two analysts are likely to be allocated to mainframe system development and others to Distributed Data Processing systems.

to £11000  
to £9000

### \*SENIOR ANALYSTS

### \*ANALYSTS

Proven experience in the design, development and successful implementation of projects is essential. Candidates should have at least three years analysis experience preferably in an IBM installation. Additional experience of programming, and/or other management services functions would prove of use. (CW/8201).

### PROGRAMMERS

Two programmers are required. These should have experience in an IBM installation using PL/1 or COBOL. Projects currently in programming make use of CICS/VS and DL/1. A Distributed Data Processing Team uses 8100 COBOL, DPPX and DTMS.

to £10000  
to £8500

### \*SENIOR PROGRAMMERS

### \*PROGRAMMERS

At least two years relevant programming experience is essential. (CW/8202).

# An Imperial career under George III.

We are now launching the first part of a new life assurance system, running under George III/DME. This is a new ICL 2956 installation. So it is with assurance that we offer four experienced persons the opportunity of careers with Imperial Life.

They will help us plan and establish a sound operational base. They will look beyond basic salary to the considerable benefits offered by a first class assurance company.

### First Class Benefits.

Generous mortgage facilities. Season ticket and car loan schemes. Subsidised luncheons. Excellent life assurance and pension cover. Where necessary, assistance with relocation expenses. And all this in Guildford, one of the nicest parts of Surrey.

### Operations Manager c. £11,000.

Responsible to the Department Head for establishing operational schedules and procedures, maintaining on line and batch production services, and managing approximately 10 operational staff.

This key appointment requires a minimum of 5 years' experience in computing operations, at least 2 at manager level, an in-depth knowledge of ICL hardware and software routines and George III preferably under DME. Exposure to VME/B would be an added advantage.

Emphasis will be on high professional standards and sound managerial experience.



### Systems Programmer c. £9,500.

To generate, implement and tailor installation software for the operation of the mainframe and associated terminal network and to give technical support to the programming team. Substantial COBOL and George III/DME experience is essential together with a sound knowledge of ICL utilities and Drive based TP software.

Qualities of enthusiasm and drive, coupled with good communication skills are essential.

### 2 Shift Leaders c. £7,500+

Responsible to the Operations Manager for the effective running of the shift, including the training and supervision of junior operators. A two shift system will operate Monday to Friday (with some weekend working at the month end). We would expect 3 years' operating experience as senior operator/shift leader on ICL equipment (on 2900 mainframe). Sound knowledge of George III/DME at operational level is essential.

Please write or telephone for an application form or send a c.v. with details of age and salary to Eileen Wood at Guildford (0483) 71255.

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...in the North of England who are available now or in the near future are invited to contact me, Peter Moore, to discuss a variety of interesting and rewarding assignments in the North West, throughout the UK and overseas.

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**PE**

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# 100,000

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**MANCHESTER** Tel: 061-872 8861

**BIRMINGHAM** Tel: 021-356 4838

# Computer Weekly

100,324 ABC Jan.-June 1981

الانترنت

## LEARN AS YOU EARN TRAINING IN CICS AND DL/1 NEW JERSEY, USA

Afia is an international insurance corporation with business in 80 countries around the world. Afia deals in 130 currencies daily, has 11 data centres all with IBM 370 or 4300 hardware and is virtually recession proof. Established in 1918 as a consortium of five major American insurance companies Afia is expanding its DP facilities significantly and consequently seeks several staff for its Wayne, New Jersey headquarters.

### ANALYST PROGRAMMERS TO \$35,000

Candidates should have a minimum of 4 years' mainframe Cobol experience (less if you have a computer science degree). Practical experience of CICS and DL/1 is an advantage but training will be provided to candidates who can demonstrate sound programming skills. Design and/or on-line experience is of special interest.

### CPI HAVE BEEN RETAINED TO CONDUCT INITIAL INTERVIEWS — LONDON — JANUARY 18-22

These will be followed by meetings with the client in early February. These are permanent positions and offer relocation expenses plus full medical insurance.

To arrange your confidential interview phone Sue Ashby on 01-836 6775 daytimes or 0844 53531 evenings and weekends.

International opportunities also available. Afia is also seeking a number of highly experienced technical specialists for various locations. CICS and DL/1 are mandatory for some vacancies. Other positions require Hardware/Software evaluation skills.



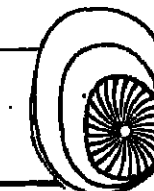
Wayne N.J., world headquarters for Afia, is a pleasant suburban community just 30 minutes from Manhattan. Afia employees enjoy a modern office environment, cafeteria and social club which includes bowling, darts, etc. Wayne is conveniently located for housing, schools, shopping, etc. plus all kinds of leisure activities such as skiing and watersports.



**Computer Personnel International**

A DIVISION OF COMPUTER SYSTEMS INTERNATIONAL

30-32 Southampton Street, London W.C.2 01-836 6775



(B044)

### CHIEF ANALYST

**LONDON** c.£14,000+ MORTGAGE  
A Chief Analyst with significant experience and commercial awareness gained within the Financial sector is required by a major Bank. The successful applicant will have the drive and initiative to lead a large team and see important projects from inception to completion. Professionally qualified or a Graduate and probably aged around 30, this could be your chance of real responsibility and a really excellent benefits package. Ref: C3894

### SENIOR ANALYST

**HERTS.** c.£12,000  
An opportunity to join an expanding department utilising some of the most sophisticated hardware and software currently available. If your background has involved plenty of user contact and development of your own commercial awareness and inter-personal skills our client offers the chance to exploit your abilities to the full in an IBM environment. Benefits are as would be expected from a major Company who are a leader in their field. Ref: R3454

### SENIOR ANALYST/PROGRAMMER

**CITY** c.£12,000+MORTGAGE  
A leading City Bank is seeking an experienced Analyst/Programmer to augment its Data Processing department which is currently utilizing Wang equipment for the development of financial and integrated Word Processing systems. This is an excellent opportunity for involvement in all stages of Systems design, programming and implementation with very definite promotional paths open to the right person. A sound COBOL or BASIC programming background is required and experience of financial or banking applications would be particularly welcome. A superb company benefits package is offered including mortgage subsidy. Ref: C3894

### PROGRAMMERS

**LONDON** To £9,500  
A major manufacturing company is seeking two experienced Programmers to enhance its London-based development team. The requirement is for persons with two or more years' MACRO experience with DEC equipment working under REX, RT11 or RT12, with some experience in industrial applications being an added advantage. These are excellent opportunities for progression within a development environment with a company offering a good basic salary plus excellent benefits which include a Profit Sharing scheme and where necessary re-location. Ref: C3305

### PROGRAMMERS

**BERKS** £7,000-£10,000+ BENEFITS  
Berkshire currently offers some exceptional opportunities for people with COBOL experience. Three major companies are expanding their DP facility and require programmers at all levels with on-line and structured programming experience. If you are familiar with HP 3000 or IBM 4300 Database software ring Targa immediately for an introduction to these superb positions. Ref: R3467

## Targa

### RPG

**LONDON:** £8,000-£13,000  
Demand for Programmers and Analyst/Programmers with RPG II or RPG III experience still exceeds supply. We are in touch with many clients in industries including Banking, Distribution, Manufacturing and Software Houses offering a choice of a wide range of application areas. Make 1982 the year your career took off — call Targa for an early interview. Ref: RGEN

### ANALYST/PROGRAMMERS

**CITY** c.£10,000  
Our client, a City based commodities house, currently utilizing DEC equipment working under RSTS/E requires further Analyst/Programmers with sound experience of BASIC and/or BASIC+2. An applications background involving financial or general commercial work would be advantageous but is not essential as a good knowledge of the programming/software disciplines is of prime importance. A salary commensurate with experience will be paid, plus generous company benefits. Ref: C3719

### ENGINEERS

**BERKS** c.£10,000  
A highly successful manufacturing company is seeking experienced engineers to work in the development of microprocessor control systems. These are excellent opportunities for persons with a degree or equivalent who have at least 3 years' experience either in micro-computer software or with micro applications and circuit design. Ref: C3704

### ANALYST

**KENT** £10,000+MORTGAGE  
You may currently be an Analyst/Programmer who aspires to his or her first position involving Analysis only. Our clients are an Insurance Company who are developing a Real-time system using Data base facilities and supporting several remote locations. If you are currently frustrated in the search for a full Analyst's role then this could be you — excellent benefits including MORTGAGE. Ref: R3095

### SENIOR PROGRAMMERS

**ESSEX** c.£9,500  
An Essex-based company has a requirement for experienced PROGRAMMERS to work in a busy but interesting ICL environment. Our clients handle a large volume of the transactions for the London insurance market therefore an insurance or financial applications background would be an advantage. A minimum of 3 years' COBOL experience, preferably using ICL equipment is required, allied with the capability to supervise and motivate other programmers. Further programming vacancies occur at other levels and applications are invited from those with slightly less experience. All positions attract an excellent company benefits package. Ref: C3640

### SYSTEMS ANALYST & PROGRAMMER

**ESSEX** £2NEQ  
Our client, heavily committed to the implementation of new systems involving manufacturing development team, 3 to 4 years' experience are required for the Analyst position and a sound ICL COBOL background, with possibly FILETAB for that of Programmer. As well as an excellent salary, related to experience, an exceptional benefits package applies, which can in certain circumstances include re-location. Ref: C3399

## TARGA COMPUTER SERVICES

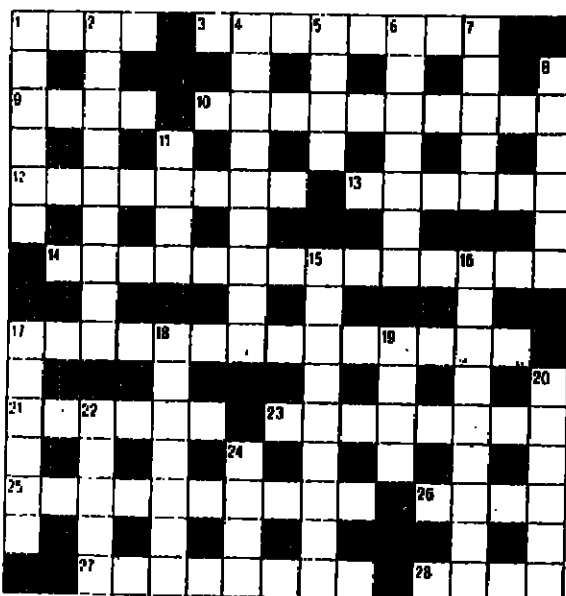
6 Liverpool Street, London EC2M 7NH 24-hour Ansaphone 01-283 9941



**Prize Crossword No 24**

Compiled by Alec Robins

A prize of £10 will be awarded for the first correct entry opened. The second and third solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS, by first post Friday, January 15. Please use a ballpoint pen to complete the crossword, and include a telephone number at which you can be reached during the daytime.



Name..... (Miss, Mrs, Ms, Mr)

Address.....

Telephone.....

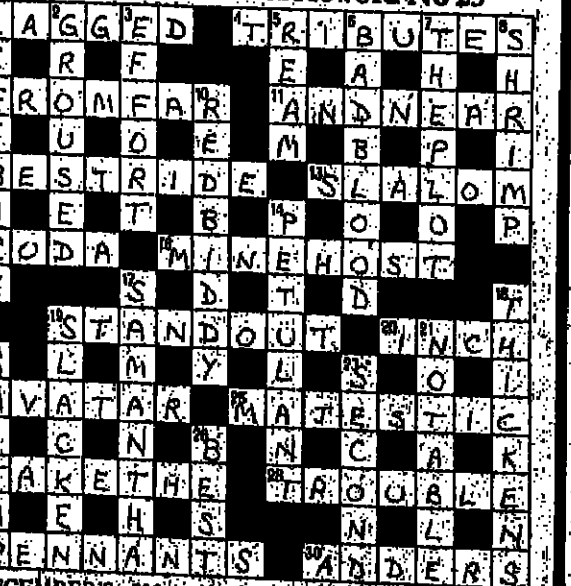
I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed..... Date.....

**ACROSS**

1. Song with a swing inflamed about fifty (4)
  3. Dismissed after a short period, explain in detail (5,3)
  9. Giant swallows right mixture of alcohol and water (4)
  10. Kind of illumination that Aladdin had? (6-4)
  12. Slaughter, with horrible screams around one (8)
  13. Expert returns to encourage a worthless person (3,3)
  14. Being influential, like an overladen porter? (8-6)
  17. R-O-M-E, for example! (7,7)
  21. Mother and doctor like snakes (6)
  23. Quarrel is conducted in silence - that's a bit hard (8)
  25. Temperate by nature, I mess about for a change (10)
  26. Sworn, caught, in a crush indoors (4)
  27. Separate - that's prudent, by the sound of it (8)
  28. Brought up, b-blushing (4)
- DOWN**
1. A vegetable like a bean you've to stick in shelter (6)
  2. Seems to need musical instrument in hurry! (4,5)
  4. A hair-style gathered in a ball, seen in a factory (5-4)
  5. Learning a tricky role (4)
  6. Atrocious act, bringing an end to Parliament in our time (7)
  7. Article about an old clan's chief (5)
  8. Peg, a greedy eater, grabbed by a drunkard (6)
  11. Noisy tune, passable (4)
  15. Older relative shows wild rage over jibe (5-4)
  16. One who embellishes a dish, as herring, soured (9)
  17. One of a beaten pair gives a sign, we hear (6)
  18. Afternoon services irritate - holy man's upset (3-4)
  19. Small tassel displayed by female amid sound of disapproval (4)
  20. Called coppers, brought to the peak of keenness? (8)
  22. American chucked into the sea was meditative (5)
  24. The last carriage that is used in the rail system (4)

**Solution to Prize Crossword No 23**



DECEMBER'S £10 prize was won by Mr. J. A. C. Williams, of Wokingham, who solved the puzzle in 10 minutes. The puzzle was compiled by Mr. J. A. C. Williams, who also solved it in 10 minutes. The puzzle was compiled by Mr. J. A. C. Williams, who also solved it in 10 minutes.

**DATA COMMUNICATION NETWORK TECHNICIAN**  
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**SYSTEMS ANALYST PO1(1-7) £8991/£10581 p.a.**

You will be responsible for designing and implementing the administrative applications. You should have experience of designing and implementing personnel and stock control or similar applications on mini-computers. A good programming background including COBOL is essential.

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You will assist the Systems Analyst and should have significant COBOL experience gained through working on a range of commercial applications.

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You will work chiefly on the operational systems. One post is for the data network, the other for criminal records. You should have experience of fast response on-line systems. A knowledge of more than one programming language will be an advantage.

All the above posts although on the County Treasurer's establishment are based with the computer project branch in Prestwich, Manchester. For an informal discussion on these posts phone Dr. Gudgin, Project Leader, on 061-798 9857 extension 565.

Application form, job description and further details available from the County Treasurer, Greater Manchester Council, County Hall, Piccadilly Gardens, Manchester M60 3HR. Closing date - 8th January 1982.

(17952)

**Computer Weekly**

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advertisers  
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and  
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New Year



Apple Computer is one of the fastest growing companies in the world, with worldwide sales revenues of \$335 million in 1981 and 2,500 employees. Its products are the world-famous Apple II and Apple III personal computer systems.

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Please send current CV to:  
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Box number replies should be addressed to:

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to Computer Weekly

Quadrant House

The Quadrant

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**Senior Programmer/Analyst up to £9,400+**  
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Here at Ford Credit we set very high standards indeed. High standards of service to our customers and high standards in the quality of staff we employ. We are now seeking an experienced Programmer/Analyst for our Systems Department located in Brantwood, Essex.

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In order to meet the challenge of this stimulating role you must have at least 2 years' programming experience using IBM/COBOL with a good knowledge of OS/VSE/ICL and a minimum of 2 years' systems analysis and design, using structured techniques. It is important that you have previously been actively involved in a major project from design through to implementation. It would be advantageous, although not essential, to have had experience of financial systems, the use of ROSCOE for program development and database design using the IMS DL/I.

Achievement of these high standards may be rewarded by a starting salary of up to £9,400 plus a range of benefits which includes a weekly supplement of £11 and an annual bonus of £196. Lunchtime Vouchers are issued, and there is 21 days holiday a year, contributory pension and a privilege car purchase scheme.

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**SYSTEMS PROGRAMMERS**  
Experience of IBM Assembler, DOS/VSE or DOS/VSE, OS/VS1 or MVS, VM, IMS, DB/DC and VSAM.  
Applicants must possess a degree in computer science. Our client offers attractive salaries and company benefits. A representative from:

**VOLKSWAGEN SOUTH AFRICA**  
will be conducting interviews during January.

**TECHNICON (AGV)**  
811 High Road, London, N.12  
Telephone 01-445 0027 (0625)

**STATES OF GUERNSEY ELECTRICITY BOARD**  
**Systems Analyst**

The States of Guernsey Electricity Board has a computer bureau which provides data processing services to a number of local government committees and private enterprises within the island in addition to carrying out computerised accounting, statistical and engineering functions for the Electricity Board.

The equipment comprises an ICL ME29 and various systems are being developed for use on ICL 7502 terminal equipment.

There is a vacancy for a **SYSTEMS ANALYST** who can design and specify systems for users of the Bureau.

The successful applicant will possess a degree or HND in computer studies, plus suitable practical experience in programming and designing systems and the potential for advancement in data processing management. We are looking for experience in both batch and on-line systems combined with a knowledge of the ICL ME29, TIME, CL, MAC and 7502 facilities.

Preference will be given to applicants with Guernsey, residential qualifications but in the absence of a suitable candidate with these qualifications a housing licence may be obtained.

For further details please contact the Data Processing Manager, PO Box 4, Electricity House, North Side, Vele, Guernsey, Tel Guernsey 48931. Ext 180, from whom an application form may be obtained. The closing date for applications will be Monday, 16 January 1982.

**SALES BIT**

**Overcoming sales resistance**

**Instinctive response is often best**

THIS week, three techniques for handling sales "objections" which are fairly obvious, even instinctive reactions.

Questioning. In some circumstances, a sales "objection" needs to be qualified, either because the salesperson does not understand it, or because he feels it is unjustified or even a subterfuge. It could be said that salespeople tend to retreat to questioning whenever they are in trouble.

However, in this instance, I am dealing with questioning when used as a positive device for progressing the sales negotiation and validating the substance of sales "objections" by putting the onus of proof on the buyer.

Questioning is probably the least likely of all rebuttal techniques to instigate a confrontation, because it allows the buyer to make his own pronouncements while the salesperson takes the apparently subordinate stance of asking questions. But questioning can, in some circumstances, create difficulties or even embarrassment for the buyer.

Therefore, the salesperson's manner of interrogation must be calm, quiet and sincere. The objective of this technique is to make the buyer reconsider his original "objection" in the belief that such a review will either diminish its significance or even neutralise it altogether.

"Your system does not cater for both Imperial and Metric values."

"That's true, Mr Prospect. How essential is this facility for your needs?"

"A product made of fibreglass is unlikely to be strong enough to meet our requirements."

"Do you think so? What are your precise requirements and what has your past experience of fibreglass revealed?"

"Your equipment appears to be efficient, but I'm not happy about its appearance."

"I must say we do find that tastes differ radically from company to company; but how important is appearance in terms of the task to be undertaken?"

It is surprising how often people respond positively to questioning by someone who is sincerely interested, particularly if it gives them the opportunity of expounding their theories or offloading their problems.

Blind Eye. During the course of pursuing their occupation, salespeople are exposed to substantial amount of flak.

"That may appear to be so, but our price includes delivery and installation as well as complete supply of consumables, sufficient for approximately three months of normal usage. Our competitors treat these as extras. In total, our price is actually cheaper than that of most other suppliers of this kind of product."

If the buyer is misinformed, he not only needs to be told, with suitable courtesy, but also wants to be told. No buyer worth his salt wishes to condone his own ignorance.

Alan Williams

**Computeach course**

PEOPLE interested in the Computeach Computer Management Information Technology course, in which most of the work is carried out in the student's own time, should contact (021) 455 9050 and not the number given in the last issue.

**PUZZLE ANSWER**

THE trick is to realise that Black's King-side Knight is now standing where his Queen's Knight was originally! The four-move game is: 1. N-KB3, N-KB3; 2. K-R3, K-R3; 3. N-QB6, N-QB6; 4. N-N, N-N.